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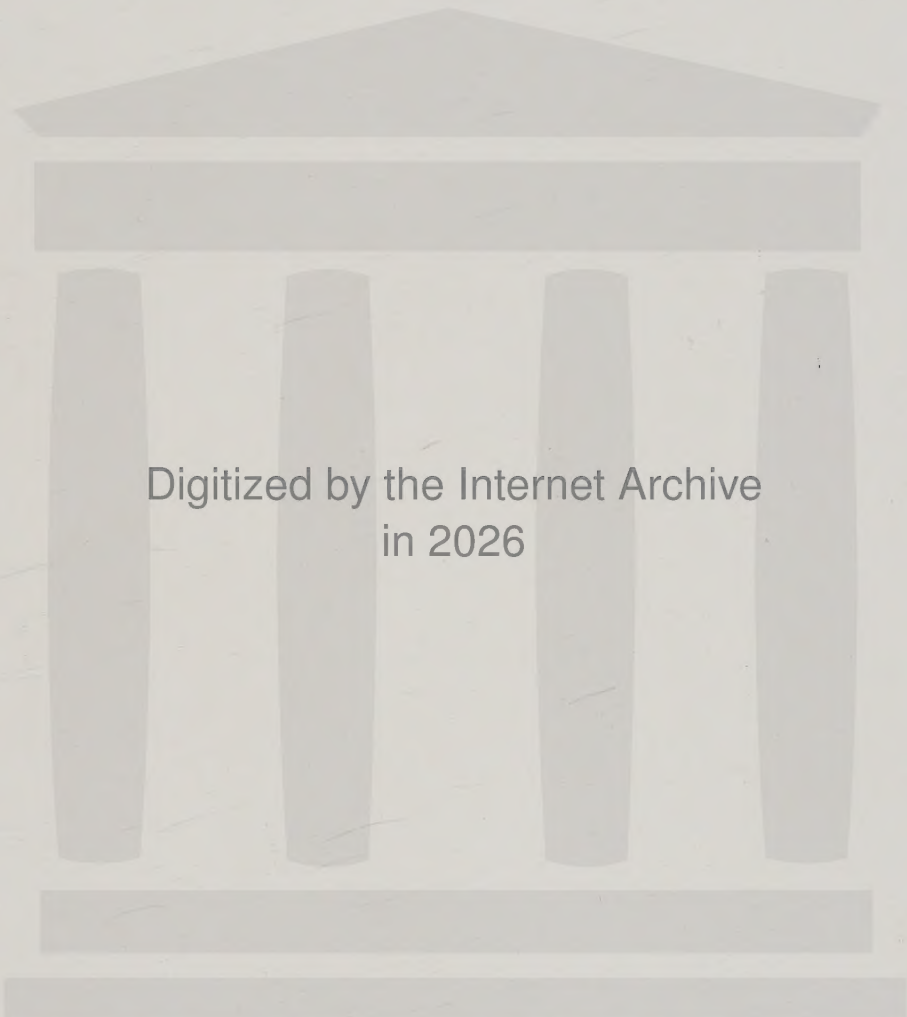
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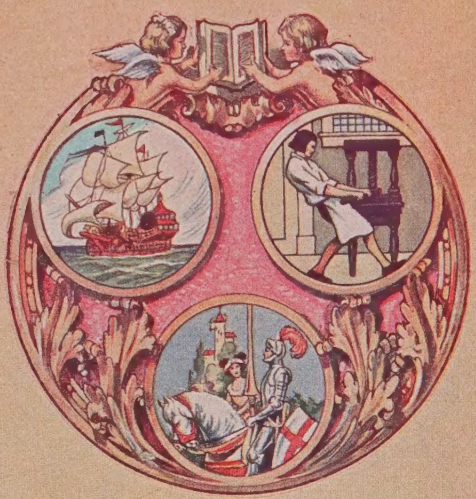

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VOLUME SIX

SPORTS AND PASTIMES
INDOORS AND OUT

Who plays with all his heart and skill
Will also work with heart and will

CONTENTS

VOLUME VI

PAGE

INTRODUCTION 1

EXERCISE AS AN AGENT OF HEALTH, by Dr. Dudley A. Sargent 2

OUTDOOR LIFE 7

Camp Life in the Open—The Right First Steps—The Question of Outfits—Different Kinds of Food—The Cooking Fire—Shelters—Lost in the Woods—Trail Marks—First-aid Suggestions—A Wild Night on Chocorua—The Most Perilous Incident of My Mountain Experiences

Practical Activities for Wide-awake Boy Scouts—Wrestling—Boxing—Game of Odors—Other Games—An Ensai-Tai Hike—Swimming—Still More Practical Activities—Clearing—Path-making—Map-making—Hammock-making—Cleaning Vacant Lots—Tree Census Taking—Bird Stalking—Migration Birds—Signaling Corps—Hospital Corps—Camera, Naturalist, Hikers' Clubs—Two Capital Suggestions—The Scouts and the Seasons—When Organize? Now!—The Boy Scout Movement—Requirements for a Tenderfoot—Second Class Scout Tests—First Class Scout Tests—The Camp Routine—Summer Sea Scouting—Foundation Stones—The Scout Law—The Simple Organization—Some Scout History—Who Gave the Name?—The First Scouts in England—In the United States—A Message from General Baden-Powell

Codes and Signaling—Flag or Torch Wigwag—Myer Code—The American Morse Telegraph Alphabet—Whistle Signs—Railroad Signals

Street and Playground Games—Two Indian Games—New, Spud, Boundary, and Volley Ball—Duck on the Rock—Three Deep—Baste the Bear—Third Slap—Castle—Pirate—Mascot, and a Dozen Other Outdoor Games

Indoor Games for Odd Moments—The Single-arm Push-up—Huckle, Buckle, Beanstalk—Broomstick Games—Odd or Even—Indian Wrestling

FIELD SPORTS 91

Football—The English Game—The American Rugby—Laying Out a Football Field—The Outfit—The Team and Positions—Playing the Game—The Positions—Hints for Boys' Teams

Association Football or "Soccer"—How the Ball is Played—The Field and its Fixtures—Scores and Penalties—The Different Positions

The Great Match at Rugby—The Game Begins—The Touchdown—The Last Rush

Basketball—the Liveliest, Severest Indoor Game—How the Team is Organized—The Playing of the Game

PAGE

Lacrosse, the National Game of Canada—Indian Origin—The Crosse and Ball—Goals and Boundaries—Penalties

Saddlebags, a Game Adopted from the Indians—The Rules—How the Score is Made

How to Make a Lung Tester

A Home Gymnasium

The Olympic Games—The Modern Revival—America at the Olympic Games

Track Athletics—The "A. A. A."—Running—The Start—The Stride—The Breathing—Distance Running—Jumping—The Broad Jump—The High Jump—Pole Vaulting—Shot Putting

How to Train—General Hints for Right Living—A Set of Home Exercises for an All-round Training—Home Chest-weight Exercises—Physical Measurements

The American National Game—Baseball—The Science of the Game—When to Use the Outcurve—The Incurve—The Drop—The Spitball—The Slow Ball and the "Floater"—How to Pitch—Batting—Base-running—Sliding—Playing the Positions—The Minor Strategy of the Game—The Major Strategy of the Game—The All-important Batting Order—Signals and Signaling—The History of the Game

WATER SPORTS 181

The Important Art of Swimming—Learning—The Breast, Side, Overhand, and Trudgen Strokes—Diving—Treading Water—Restoring those Partially Drowned

Rowing—The Sea-dogs—The Modern Sculler—"Eights"—Seating—The Members of a Crew

Canoeing—Canoe Paddles—A Canoe Trip

How to Sail a Small Boat—Tacking—Jibing—Making a Landing—Squalls

Water Polo

SPORTS FOR SNOW AND ICE 207

The Exhilaration of Ice Boating—An Exciting Adventure—Skate Sailing

Skating—The Roll—The Grape Vine—The Spread Eagle—Dancing on the Ice

Ice Hockey—Shinny—The Rink and Implements—The Way a Team is Composed—The Appeal of the Game

Skiing and Showshoeing—Their Delights

SPORTS OF ALL SORTS 231

The Horseman's Dashing Game, Polo—The English and American Games—Riding and Ponies—The Strokes

Cricket—How Played—Wicket-keeper, Bowler, and Batter

Golf, the Royal and Ancient Game—Laying out the Course—Equipment—The Game and its Score—Hints to Beginners

Lawn Tennis—What the Game is—How to Score—Fine Points of Play—The Service—Volleying and Smashing—Tactics

PAGE

Handball and Boxing—Handball—The Simple Principle of the Game—Boxing—Attack and Defense—Knockout Blows

Traditional Boy Employments—Marbles and Tops

INDOOR PASTIMES 267

Holiday Parties for Boys and Girls—Getting Acquainted—A New Year's Party—St. Valentine Gives a Heart Party—April Fools and April Fishes—Easter Eggs and Bunnies—May Day—Fourth of July—Halloween—Thanksgiving—At Christmas Time

Fireside and Party Games and Entertainments—District School—Burlesques—Country Circus—Reveries of a Bachelor—Nations—A Musical Romance—Art Exhibit—A Tea Party—The Can Factory—Guessing Games—Imitation Games—Drawing Games—"Dress up" Parties—Games of the Senses—Memory Games—Bean Bag Races—Clapping Race

Parlor Magic—The Magician's Tent—The Secrets of the Trade—Kinds of Tricks—The Outfits—Sleights of Hand—The Pass—The Wandering Aces—The Palm—The Force—Other Tricks of Magic—Ventriloquism—The Great Magicians of the Past

The Collector at Home—How I Made My First Microscope—Making an Herbarium—Collecting Stamps

The Knights of King Arthur—History—Degrees—Castle Handiwork

Amateur Photography—What to Take and How to Take It—A Word about Cameras—The Chemistry of Picture-making—The Practical Side—Printing—The Most Profitable Subjects

FUN AND WORK IN THE HOME GARDEN 313

How to Plan, Plant, and Care for the Vegetable and the Flower Garden—Making and Managing a Vegetable Garden—Selecting the Garden Site—Enrichers and Fertilizers—Harrowing and Raking—How to Buy Seeds and Plants—What, When, and How to Plant—Keeping Ahead of the Weeds—The Battle with the Bugs—Harvesting, and Fall Work—Some Work for the Girls—Money in the Garden—A Word about Fruit

The Flower Garden—How to Make the Place More Beautiful—Look out for the Soil—Planting Table for Vegetables—Planting Table for Flowers—Garden Insects and Diseases and Their Remedies—How to Make a Pergola—Veranda Boxes—Shade and Grapes from the Same Vine

ACTIVITIES ESPECIALLY FOR GIRLS 344

Athletic Sports and Exercises—Two Ways of Training the Body—Eight Simple Home Exercises—Exercising to Become Graceful, and the Exhilaration of Outdoor Sports—Water Sports—The Attractions of Tennis—"Hiking" Trips—Indoor Winter Activities

Horseback Riding for Girls—One of the Healthiest Exercises—How to Handle the Reins

PAGE

Fencing and Archery—Pastimes Equally Good for Boys and Girls
The Campfire Girls—The Ranks—The "Blue Birds"
The Girl Scouts
A Young Girl Traveling Alone
Pageants—How to Plan a Pageant—The Kinds

LIFE IN THE GOVERNMENT WAR ACADEMIES 378

West Point and Annapolis—Where do the Boys Come From?—The Requirements—The History of the Schools
A Midshipman's Day at the Naval Academy
A Day at West Point

SPECTACULAR SPORTS 399

Yachting—Classes of Racing Yachts—Motor-boat and Cycle Racing
Strange Sports of Many Lands—Gladiatorial Combats—Knights and Tourneys—Bull-fighting—Schläger Bouts—The Sports of Savages—Queer Forms of Racing—Odd Ways of Hunting

FULL-PAGE ILLUSTRATIONS

	Page
Chief Little Wolf (color)	*Frontispiece*
Morning in Camp (color)	*facing* 1
The Gymnasium in the Open Air	5
Breakfast in Camp, and the Morning Toilet	6
Typical Boy Scout of America	24
Tracking in the Snow, and a Fire-building Competition in the Snow	26
The Hawks' Nest — A Cabin Built by Scouts in a Forest	27
A Scout Summer Camp	29
Scouts Discovering and Depositing a Note; Indian Hand Wrestling	31
A Group of Scout Activities	32
Scouts Felling Trees for a Log Cabin	34
Off for a Tramp	40
Boy Scouts Signaling and Trailing	46
A Scout Totem Pole; Building a Fireplace	49
Boy Scouts on their Field Outings	52
Demonstrating First Aid, and Building a Friendship Fire	58
Catholic Boy Cadets on Parade and Review	71
A Young Enthusiast	74
A Typical Modern Scrimmage; an Onside Kick	90
Line Charging after Ball has been Snapped (color)	*facing* 95
A Punt; an End Run; Fast Interference; Through the Line	97
A Sharp Tussle between Opponents	104
A Football Team of Maoris	107
Soccer or Association Football	111
Dedication of the Berlin Stadium	124
Track Athletics	128
Positions in Running	131
Winning the Half-mile; High Hurdles; the Finish of a Hundred Yards' Dash	133
Winning the High Jump; High Jumper Practicing	138
A World's Record Pole Vault	141
Outdoor Gymnastics	152
Learning Grace in Movement	154
A Hand-stand on the Bars	158
An Amateur Athletic Contest	160
A Sure Hitter, an Idol of the Fans (color)	*facing* 161
Action Pictures in the World's Series	175

PAGE

Stopping a Home Run . . . 177
A Tub Race; and an Inventor in Waterproof Suit . . . 179
The Best Fun there is in Summer . . . 180
The Birch-bark Canoe (color) . . . *facing* 189
An Oxford-Cambridge Race . . . 191
"Ascot Sunday" on the River Thames . . . 192
Off for a Week's Canoe Trip in the Woods . . . 198
A Sailing Party that Came to Grief, and a Most Effective Rescue . . . 200
Yachts Maneuvering (color) . . . *facing* 204
Ice Boating Scenes . . . 206
Curling and Playing Hockey in St. Moritz, Switzerland; Ice Boating in New England . . . 209
The Good Old Days of Winter . . . 210
Taking the Bank at Top Speed . . . 214
What St. Moritz, Switzerland, Provides for the Lover of Winter Sports . . . 215
Speed Skating and Cutting Fancy Figures . . . 216
The Joys of Skating . . . 219
Sailing on the Land; an Aero-Sledge; the Motor Ice Boat . . . 221
At the Take-off—Just before the Jump . . . 225
Three American Ski Jumpers . . . 229
The Present Emperor of Japan, Yoshihito . . . 230
A Perilous Moment for a Bold Rider . . . 233
Auto Polo . . . 234
Cricket, the National Game of England . . . 238
An Amateur Golf Champion . . . 242
Positions for a Correct Putting Stroke . . . 247
Mid-iron Stroke; Finish of the Drive; Playing a Ball out of a Bunker . . . 249
Details of Tennis Court and Equipment . . . 255
How an Expert Serves and Makes his Strokes . . . 257
Tennis in the Playing . . . 259
A United States Army Officer Guiding his Spirited Mount over the Jump . . . 260
Halloween (color) . . . *facing* 267
Some Curious Stamps, New and Old (color) . . . *facing* 300
A Model Garden and a Living Room to Match it . . . 317
Gymnastic Exercise . . . 346
A Girls' School Canoe Club; High School Team Playing Hockey . . . 351
At Rest and in Action . . . 355
Japanese Women in Broad-sword Bouts . . . 358
Japanese Archers . . . 361
Four Campfire Girls . . . 364
A Pageant at the White House . . . 370
An Independence Day Pageant . . . 373
The Stages of Society, shown in Tableau Out-of-doors . . . 374
An Old-fashioned Dance (color) . . . *facing* 375
Three Branches of Knowledge in Tableau: Mathematics, Latin, English . . . 376
A Dance of the Chemical Elements . . . 377
The Naval Academy at Annapolis . . . 380

PAGE

Scenes at the Naval Academy 381
Scenes at West Point 382, 383
At the Naval Academy 385, 386, 388
On a Man-of-War 391
The Colors — For Salute 392
Outdoor Life at West Point 394
Setting-up Drill at the Academy 395
Sir Thomas Lipton's *Shamrock* (color) . . . . . *facing* 399
A Daring Yachtsman who has Won many Races 401
Motor-boat Racing 405
Motor-cycle Race, and Bicycle Polo 406
Start of a Six-day Bicycle Race; Two Forms of Catamaran 407

In addition there are 224 illustrations in the text, of which those with titles are catalogued under their respective subjects in the General Index in Volume X.

MORNING IN CAMP

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SPORTS AND PASTIMES, INDOORS AND OUT

THE average American boy is by nature an out-of-door animal and a lover of healthful play. One of the best features of our present civilization is the intelligent attention given to play and to all forms of outdoor sports and pursuits. We have learned that all work and no play is as bad as all play and no work, and that to mix work and play in proper proportions is the solution of a healthful and happy life. Nor have the girls been overlooked in this new development. Indeed, they have become quite as eager as the boys in the quest of "the open," and are found in the gymnasium, on the tennis court and golf links, and in the camp life and the whole round of summer pastimes. This is the era of athletics, and, while there may be excesses in this as in all other directions, no one can doubt that the general tendency is wholesome and makes for physical, intellectual, and moral improvement.

Fortunate are they who have this book as a companion and guide in the wide field of outdoor and indoor games and pastimes. It takes one at once into the outdoor life, and makes summer camping both real and practicable, telling what a camper needs to know, and how he manages in all sorts of situations. It gives a thorough and charming account of the remarkable Boy Scout movement, with illustrations that cover all its phases and make one long to get out on a "hike."

Field sports are treated in the same practical way, so that one who learns for the first time about football, tennis, golf, or baseball, will understand the games, while the expert will get a new point of view that will hold his interest. The winter sports have full place also; and for the athletic exercises and home gymnasium practices the reader has as adviser that chief of physical-training teachers, Professor Sargent of Harvard.

Indoor pastimes are not neglected, and all sorts of parlor games and home parties are described. Amateur photography tells how one amateur set about it and succeeded, with his own photographs as illustrations and proof. Then there are practical methods for making all kinds of useful and interesting things. Fun and work in the garden fill a section that will lead many a boy and girl to try this fine kind of work with a real purpose in view. The special activities of girls have a section, although their interest will be maintained in the whole book.

This merely indicates the scope and interest of the volume, which has been written by lovers of "the open," and is full of the atmosphere of enthusiasm that is engendered by the best play. We have come to see that play is a necessary and important part of life, and should be made to yield physical strength and grace, and also moral stamina. Team work is one of the lessons learned through games; another is to fight through an uphill game, and to lose generously and in a good spirit. Play to win, but do not fear to lose. Play fair and demand fair play, and in all things be guided by friendliness and courtesy. It is this spirit of true sportsmanship that is engendered by this volume, and that counts for worthful success in the more serious pursuits of life as well.

FULL DEVELOPMENT OF THE ARM, SHOULDER, AND BACK MUSCLES AS SHOWN IN A GROUP OF COLLEGE ATHLETES

EXERCISE AS AN AGENT OF HEALTH

[Dr. D. A. Sargent, of Harvard, who writes this introduction and also furnishes the material and his own photographs for our articles on Physical Culture, is recognized round the world as the highest authority on the scientific development and training of the body, not merely for athletic stunts, but for the wear and tear and joy of life. He is a master of his profession.]

YOUNG people are frequently told by their elders that life is a battle, a fight. And so it is, but the fight is not only a moral one of good against evil, but a physical one of health against disease. Happiness and success in life are impossible without health. The fight for health is then worth while. Did you ever realize that practically all the Napoleons, Cæsars, Washingtons, and Lincolns were men of the out-of-doors? Make a list of the men and women whom you especially admire and you will find that most of them had steady nerves and strong bodies. Could either Washington or Lincoln have stood up under the terrible years of strain and responsibility that made them famous if they had had puny bodies? Certainly not, and every young person whose ambition it is to make his life count for something in the future must first build up a strong, healthy body.

Every game of tennis, every country walk, every game of ball means help toward a healthy body. All wholesome play and frolic instead of being time wasted is health stored up. Every boy and girl should learn thoroughly at least one form of outdoor sport or recreation. There is a long list to choose from — football, baseball, hockey, tennis, golf, swimming, horseback riding, running, jumping, fencing, etc.

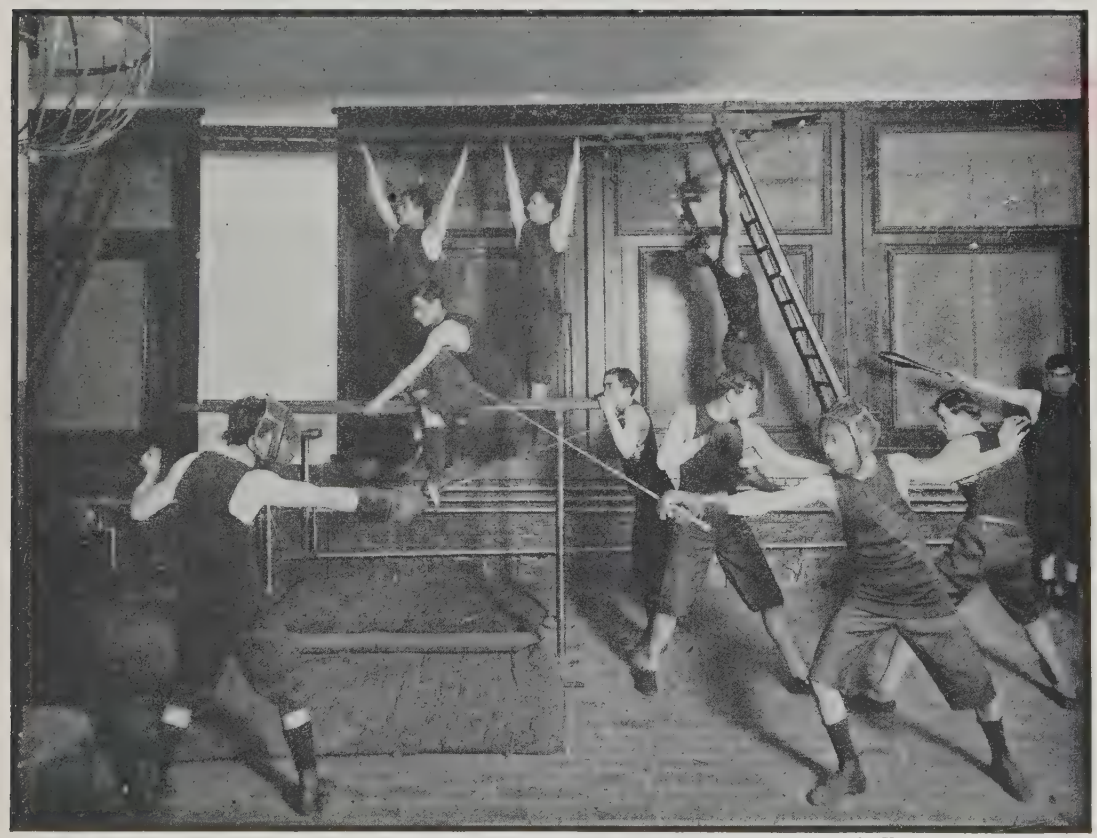
What do you do with your extra leisure time? Don't spend it all poring over books, or swapping knives, or making embroidery. Get out-of-doors and do things. Get together the young people of your own immediate neighborhood, or a group of your friends, and propose some kind of an athletic or gymnastic association. If there are no horses for horseback riding, no ponds or oceans for swimming, no land suitable for tennis or golf or hockey, no mountains for climbing, there will still be roads for ordinary walking. Find one other person or several

other persons and walk, walk, walk. Wear suitable stockings, comfortable shoes, and other garments which will impede as little as possible. Mark out your section into long and short walks and adopt a routine which you can live up to. Walk in all kinds of weather. In walking for exercise there must be no lounging along, — nothing suggestive of sauntering. One should swing out at a good brisk gait, and then keep this up except for periods of rest. In most of the large cities, various societies and organizations now have regular walking trips.

Better than walking, however, are the different kinds of recreation which involve some form of competition. Greater interest and pleasure always attaches to a contest. We never get too old for play, and play is one of the best tonics in the world. In my Cambridge gymnasium one can see on certain days late in the afternoon gray-haired professors and stalwart business men playing a modified form of football like a group of eager schoolboys. Each one is as in earnest to "beat" as the ten-year-olds. They stir up their blood, make their muscles more elastic, get their lungs full of fresh air — and this means clearer brains.

Young people should never let themselves get headachy or lazy or round-shouldered. When a person finds himself a victim of any one of these conditions, he may know that he can never make a first-rate man or woman. Then is the time for him to get out-of-doors or into the gymnasium and limber up, and keep himself out of the reach of failure.

I believe that young people who cannot enjoy the privileges of athletic clubs and gymnasiums still have it in their power to do much to improve their physiques. The idea that the work that one engages in must be necessarily interesting in itself in order to be beneficial is erro-



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BOYS LEARNING FENCING AND OTHER INDOOR SPORTS

neous. It is true that one is more likely to enter with enjoyment and enthusiasm into the work in which he is interested, but if one gives his physical effort, his *attention*, whether it be at work pounding on a blacksmith's anvil, or driving stakes for amusement, the benefit will be in proportion to the muscles exercised and the effort made, provided this activity is kept within the physiological limit. As a matter of fact, some of the most prominent athletes in our colleges and city gymnasiums laid the foundation for their strength and agility while doing farm work or engaging in some form of manual labor that gave them all-round exercise.

The best plan, therefore, is to regard exercise, if not as a pleasure, then as one of the important agents of health, and treat it with as much consideration as the subjects of food, sleep, bathing, clothing, etc.

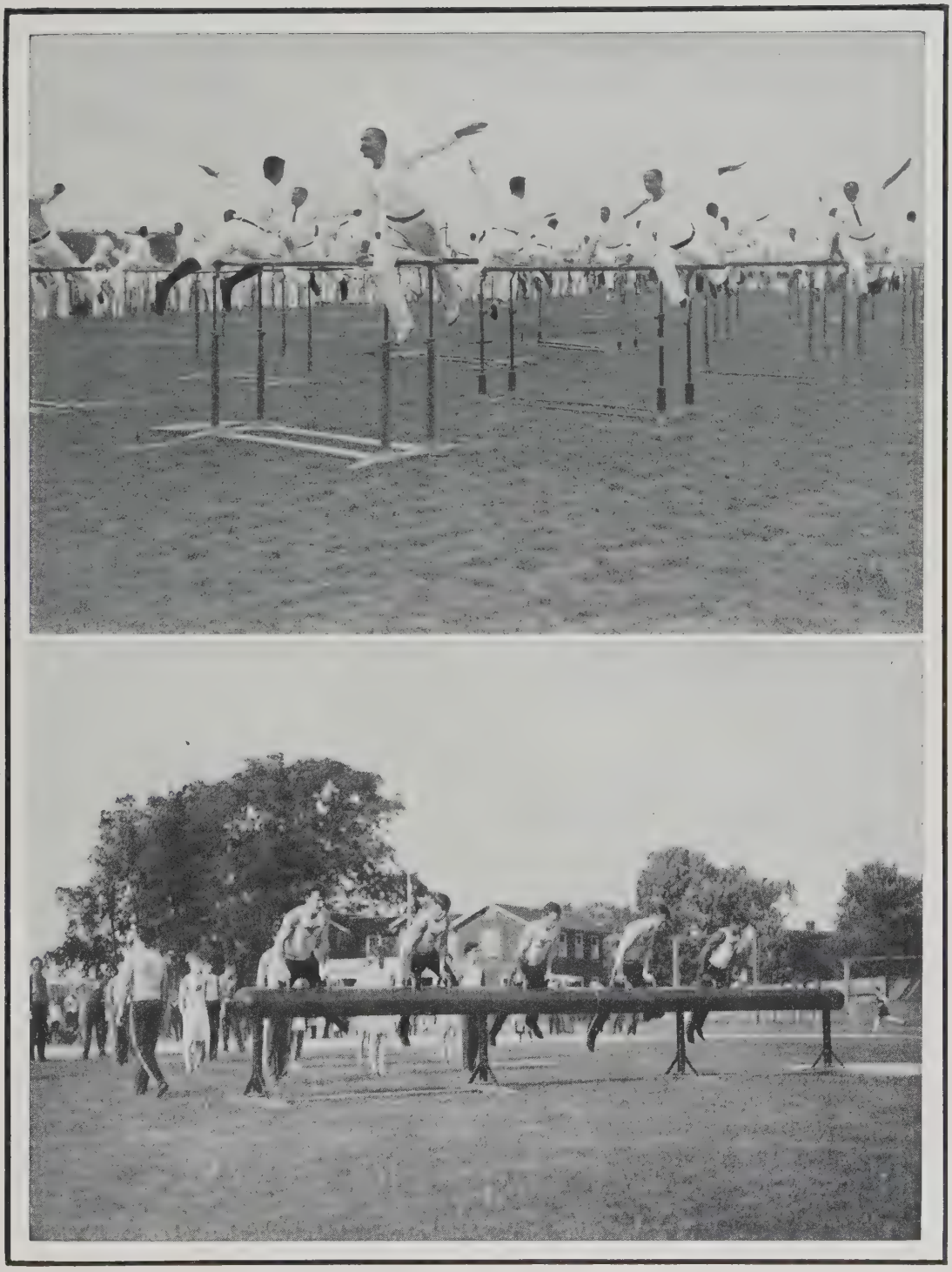
Join a gymnasium or some form of athletic club, and enjoy all the sports in their season; but if you cannot avail yourself of any of these privileges, do not despair of doing something for your physical improvement. Remember that it is the kind of efforts that one makes hundreds of times a day that affects the constitution favorably, and not the spasmodic efforts that are made once or twice a week.

Athletics and sports are not only the means of developing the body but they perform another important part in our lives. They overcome such bad habits and unfortunate tendencies as laziness, bashfulness, cowardice, fear, and selfishness. If any boy or girl is struggling to overcome any one of these habits, I can give no more helpful advice than to get out-of-doors and engage in any of the virile sports such as baseball, hockey, swimming, horseback riding. One will soon gain confidence and overcome laziness and fear.

There is nothing more exhilarating than to feel oneself possessed of a vigorous body and a clean pure mind. Both are worth striving for year after year, and the time to begin is in youth.

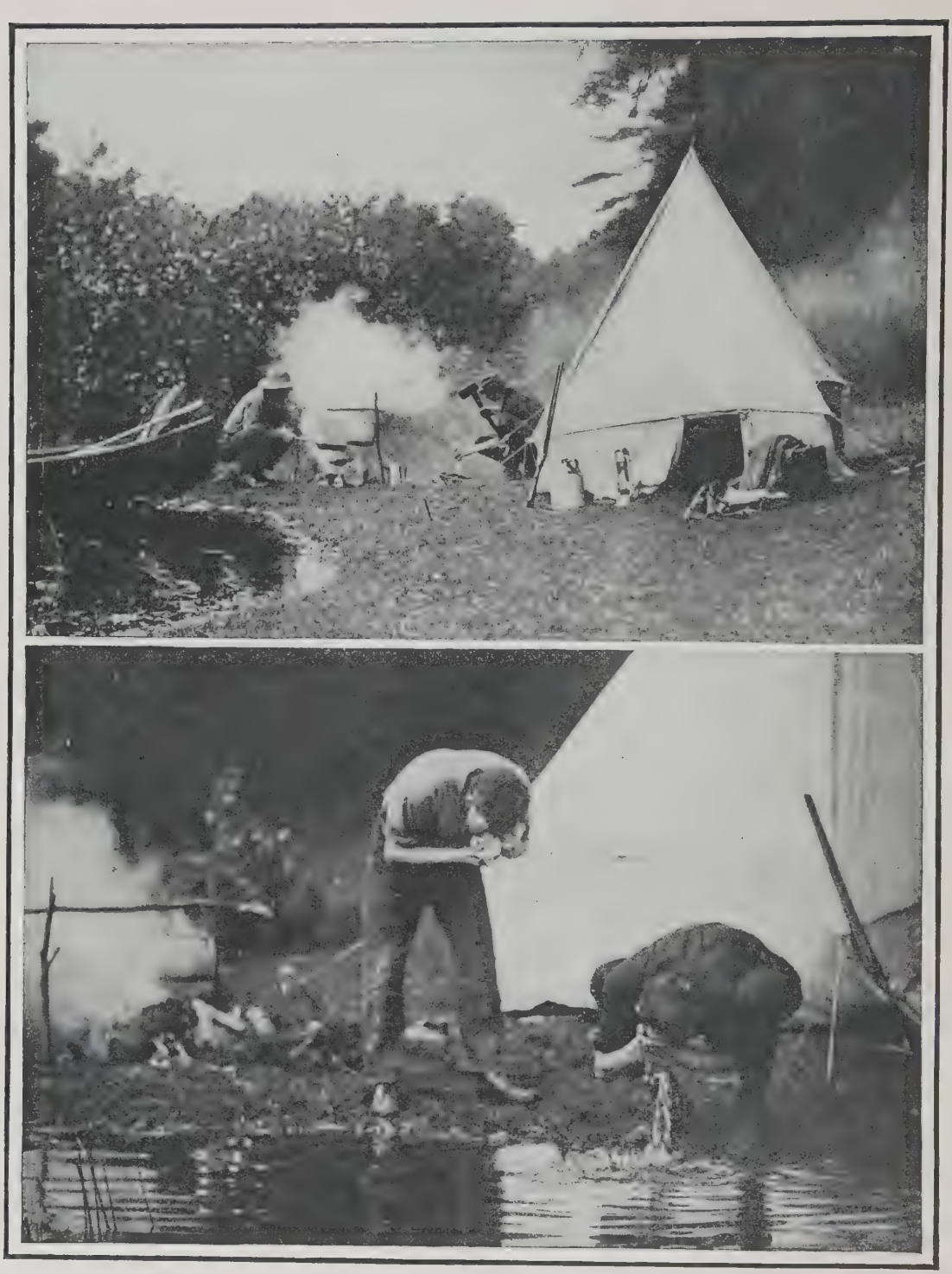
ONE OF DR. SARGENT'S CLASSES

D. A. Sargent.



THE GYMNASIUM IN THE OPEN AIR

Dr. Sargent gets all students out of doors whenever it is possible. He is a firm believer in pure fresh air and deep breathing as essentials to health.



BREAKFAST IN CAMP, AND THE MORNING TOILET

OUTDOOR LIFE

CAMP LIFE IN THE OPEN

POINTERS ON HIKING, CLIMBING, CAMP COOKERY, AND KNOWLEDGE OF THE WOODS

THERE is a magic in the words "camping out" that puts restlessness in our feet and drives us out-of-doors to tramp and tramp along the highroads and the byroads, and see what is to be seen in meadow and plain and from the hilltop, and get up famous open-air appetites, and build fires, and cook, and at the day's end lie down to the sound and peaceful slumber that is known only to trampers and campers. And when we add to "camping out" the further words "mountain-climbing," the magic is complete, and if we ever have climbed mountains the words set us to looking back with the liveliest recollections on our past adventures; or, if we never yet have scaled to where the wind whistles and the eye leaps fifty miles at a jump, then we look forward eagerly to that finest of experiences.

Old stagers, veterans at the game, consider no mountain a mountain that is less than three thousand feet high, and consider no "hike" a real hike that is short of from twenty to twenty-five miles in the day. But before we can become veterans we have to be apprentices, neophytes, newcomers, perhaps even "greenhorns." Let us at any rate, whether we are experts or novices, go over in our minds the experiments that every novice at camping must try and the knowledge he must acquire before he can take out his license as woodsman and guide.

THE RIGHT FIRST STEPS

Leaving aside questions of good food and good companionship, it may be said that pleasure in camping depends primarily on two things, sound health and a whole skin. Why a whole skin, you ask? Because it is through scratches and cuts that bothersome, dangerous,

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ALL THE CONVENIENCES, ANCIENT AND MODERN, AND ROMANCE INTO THE BARGAIN

even fatal, microbes work their damaging way into the body, to produce various kinds of poisoning. Nature may seem a little harsh to us in visiting such penalties on scarred flesh, but we may as well face the facts and at the outset form unconscious habits of sensible caution. Abrasions or breakings of the skin should be washed in soap and hot water as soon as possible and then protected by light bandaging, court-plaster being a very poor sort of makeshift. I have more than once known boys to lose two or three weeks out of the middle of a camping summer through neglecting a slight cut or blister on hand or foot and having it maturate. And I knew one boy who involved himself in a six-weeks' siege of blood-poisoning through a like neglect. Don't think that I am trying to line the camper's path with scarecrows and danger signals. If your health is sound, and you have the extremely sensible habit of washing germs away as soon as they land on you, particularly from patches of broken skin, you will have nothing to fear from these invisible nuisances.

This isn't the place for advice on how to secure sound general health. Advice on that point will be found elsewhere in this volume. There is, however, one detail that ought to be gone into, and that is the seemingly trivial matter of caring for the feet. A camper's value, just like a soldier's, is dependent upon the condition of his feet. Blisters, stone-bruises, foot-faults of any kind will tie one down to a single spot as effectually as ball and chains. The moral of that is to wear flexible shoes a shade looser than street shoes, and to harden and accustom the feet by starting the season with short walks and gradually walking farther and farther. It is well to know, too, that in the case of extra long tramps an occasional foot-bath in a brook will help, and that dry soap, rubbed on the outside of the socks, or talcum powder dusted in the shoes will remove the likelihood of blisters. People with well-

toughened feet can tramp all day in sneakers; but unless you are sure of yourself you will find it best to use shoes for the road and sneakers only for the mountainside.

THE VARIETIES OF CAMPING

Camping ranges all the way from spending the night in a tent in your own back yard, or in woods near at hand, to setting off fully equipped for a week or more of hiking. You could not be given better advice than to do a good deal of overnight camping before you try a long trip. There is only one way of putting the real spice of adventure into camping, and that is to get away from home and the base of supplies. But many useful things may be learned near home about making beds and shelters, and about camp cookery. I know, and probably you know also, that no one ever learned the ins and outs of camping art from books. Books suggest; it is experiment that teaches. So try out the suggestions you find in the following pages on a small scale and a few at a time and see whether or not they fit your particular needs. If you are lucky enough to live near woods, try various kinds of shelters, and various supper dishes, and various cooking utensils. And when each Saturday comes, take an all-day tramp. Make sure that you know every road and lane within fifteen miles of your house, and visit every hilltop.

THE QUESTION OF OUTFITS

With regard to your camping outfit, your blankets, your pots and pans, and your extra clothing, experience is the great teacher. The tendency of every new camper is to overload himself with needless, elaborate, costly extras. The patent contrivances made by sporting-goods firms are undeniably attractive; and he would be a dull soul who could look over the illustrated catalogs of these clever merchants without at once planning to lay in a stock of folding knives and forks, folding lanterns, folding cots, folding fire-irons, folding tents, folding this, and folding that. I have had the craze for "patent dingbats," as they have been called; you have had it too, or will have it. And perhaps the best way to get over it is to burden your back with lugging a few patent dingbats

CAMP HEADQUARTERS, LAKE OSSIPEE, NEW HAMPSHIRE

THE INSEPARABLE MONKEYSHINERS; CONTINUOUS VAUDEVILLE IN CAMP

around in your pack until you weary of them.

The essential things are — simply the things that you find you cannot do without. When you come home from your first elaborate trip, sort all your duds into three piles. In the first pile put the articles that you have used every day, or nearly every day. In the second pile put the things you have used only once. And in pile No. 3 place those you have not used at all. Then make up your mind to discard all but the first pile. Say good-by to "patent dingbats" and make up your mind to become as crafty and clever as an Indian in making an oven out of hot stones, a fork out of a sharpened stick, a shelter out of boughs — any needed thing, in fact, out of something to be found in the woods or by the wayside.

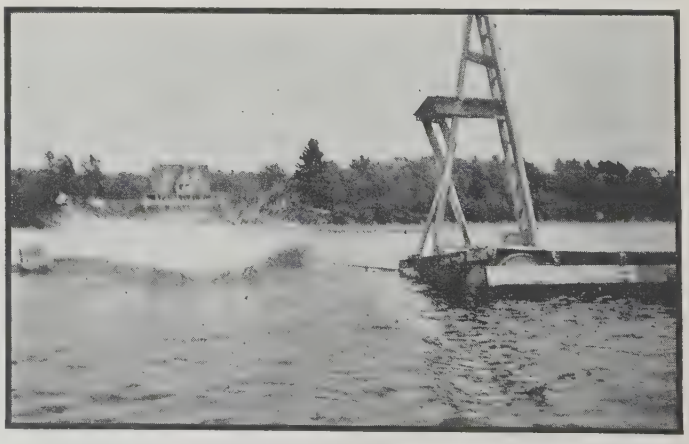
NO VIRTUE IN DISCOMFORT

I am not preaching a doctrine of discomfort, but a doctrine of simplicity and resourcefulness. There are people who pride themselves on their hardiness, their ability to get wet in every rainstorm, to sleep on stones with a pair of shoes for a pillow, and so on. A distinction should be made between hardiness and foolhardiness. Wet feet are not good things; an uncomfortable night's sleep is not a good thing; scanty and half-cooked food is not a good thing. The wise camper will make himself as comfortable as he can without taking too much time over it and without putting too much weight in his pack.

THE ESSENTIALS

The essentials are: for cooking, something to boil in, something to fry in, something to drink out of, and a spoon to eat out of. For sleeping: a woolen blanket for warmth, a rubber one for dryness, some sort of pillow for sweet dreams. For general comfort: a spare pair of shoes or of sneakers, a sweater, a change of underwear, toilet articles, and a bandanna. For general utility and for emergencies: a hunting-knife, a jack-knife, a spare handkerchief, and a compass. These are the permanent essentials. For temporary essentials one will need matches and — grub. In the way of food one wants a certain amount of slow food and a certain amount of quick food, a certain amount of fruit, and a certain amount of salt and fats, and something to drink. You have here in a few words an outline of camping necessaries. Now for some explanations and comments.

First to speak of the sleeping equipment. The best blanket for rough service is a single one of the army-blanket type. Now that the army has changed from blue to olive-drab blankets, many blue ones will be put on sale by companies that deal in condemned army



THIS IS THE SPLASH "FAT" MADE WHEN HE JUMPED FROM THE DIVING TOWER. CAMP IS IN THE BACKGROUND

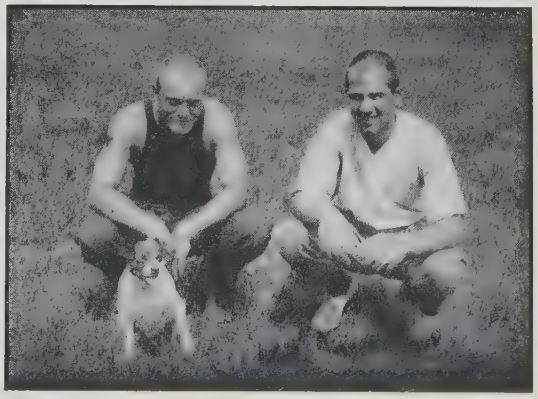
TONSORIAL ART IN CAMP. "YOU CUT MY HAIR AND I'LL CUT YOURS." DURING THE OPERATION ——

goods. By all means get an army blanket if you can, and by all means sew it into a bag, leaving a couple of feet of the side unsewed to make getting in and out easier. I am a great advocate of adding to the blanket-bag a waterproof canvas sleeping-bag. This you had better not try to make for yourself. It will be well worth while to invest in such a bag. Its cost will be about four dollars. The drawback of the waterproof bag is that it is heavier than a rubber blanket. On the other hand it is far warmer; and, above all, with its ample head-flap laid down over your head you can pass through a heavy rainstorm without getting a bit wet. I did not name this extremely useful article in the list of essentials, but I am tempted to go back and do so. I have one that I have slept in about five hundred nights in every kind of locality during the past six years; and it is as ready for service as ever. As for the pillow, perhaps you think that only a "softy" would bother with such a thing. It is indeed quite possible to do without one. You can roll up your underwear and towel in a long roll and tie the ends together, horse-collar fashion, to make a hollow for the ear. (Not for nothing do tramps speak of sleeping as "pounding your ear." Many a thoughtless lad has raised an aching ear from an ill-devised pillow.) Such a pillow will do; but you will find that most veterans bring along an empty pillowcase, which they can fill with hay or sweet grass. Let me confess that all through one summer of camping I used a rubber-silk air pillow that was light as a feather in the pack. Perhaps you'll think this "sissified." But I got wonderful comfort out of it, and that was what I was after. I should be using it now, by the way, if I had not accidentally stepped on it one day when it was full of air. 'Nuff said.

THE TOOLS OF THE TRADE

The uses of the hunting-knife are so many that no argument is needed for its inclusion among the essentials. It is well to have a two-bladed jack-knife along also. The small blade should be kept sharp for whittling, and the large one freely and frankly used for can-opening, screw-driving, and a dozen other rough operations. The spare handkerchief could be replaced by any clean piece of sheeting or by a roll of inch-wide surgeon's bandage, for the purpose of the handkerchief is to serve as bandage or sling or tourniquet in an emergency.

The value of having a change of underwear with you when you are on a hike of three days or more will be made evident by experience,



—— AND AFTER

if it is not evident to common sense. It is particularly comforting to have a change of shoes and stockings when the day's tramping is over and it is time to eat, and loaf around the fire. No more than mention is needed of soap and soap-case; of towel, and comb, and toothbrush.

It is when we come to cooking and utensils that confusion and complication are likely to enter. All sorts of kits are offered for sale, and all sorts of home-made combinations have been devised. My own preference is for a quart lard-pail, a ten-cent frying-pan, a pint-and-a-half tin cup, and a heavy tin spoon with a sharp edge. With positively not a single other item,

THE CAMP COOKS

The range is an old circular saw set on rows of bricks — none better.

a first-rate meal can be cooked — and eaten, for the frying-pan serves as dish, and I'd like you to show me the food that can't be eaten by a hungry boy with a good-sized tin spoon. Keep the cover with the lard-pail and you can use it as a trunk and as a cupboard, when it is n't on the fire a-boiling your rice or your cornmeal or your cereal.

There is one other thing not in the list of essentials, though it is exceedingly handy and useful; and that is the canvas haversack. Into the haversack can be crowded all your cook's-kit and your grub-stakes and your small extras, not to mention mineral specimens and any other small objects that you pick up and want to bring home. With your blanket-roll slung over one shoulder and your haversack over the other, you stand well balanced, perfectly equipped for hard tramping. If you once try the haversack you will always use one. Do not in your haste buy a condemned or discarded army haversack. These are built of a canvas heavy beyond your utmost requirements; and in addition they will not hold very much. Look around until you find a roomy two-compartment haversack or game bag of light canvas, costing about a dollar. That will suit your needs exactly. In some districts an army canteen is also useful, almost necessary.

DIFFERENT KINDS OF FOOD

No one expects to have a very elaborate menu when he is away from civilization on a camping trip. Camp food is not served à la carte but à la haversack, if you 'll permit a feeble pleasantry; and the number of things that can be carried steadily and over rough ground and by boys that are not, after all, quite willing to make pack-horses of themselves for the sake of a varied diet — the number of such things is comparatively small.

Mention was made, some way back, of slow and quick foods. Perhaps these terms seemed curious to you. They are a rough and not very scientific way of referring to the fact that some foods, like cereals and potatoes and other vegetables, digest rather slowly, and keep giving out energy little by little for two or three hours or more; while other foods, like milk, and eggs, and beef, are digested for the most part within an hour, sometimes within a half-hour, and so give out their energy quickly. Other quick foods are fruits and sugar and chocolate. That is why sweet chocolate is a good thing to munch occasionally during a long, difficult mountain-climb. The strengthening effect of it is felt almost at once.

Well-proportioned grub for a trip should accordingly contain both slow food and quick food. It should also contain fruit and a certain number of fixings. The fruit may most handily be taken in the form of dried prunes and dried apricots and peaches. Raisins are mighty good, too. There is a forest ranger in the Rockies who can last out a ten-days' tramp on an allowance of a pound of raisins a day and plenty of water. Fruit could be omitted from the menu; but to omit it would be fool-

ish, as it is pleasant eating, for one thing, and for another it helps, as it alone can, to keep the engine in good working condition.

THINGS TO BOIL

If you have plenty of time for cooking dinner you will find it well to boil up a mess of cornmeal or rice. Fill your clean empty lard-pail about three quarters full of water, add as much salt as you can take up on the small blade of your knife — or, as the books say, salt to taste, a thing that you can do after practice — and bring the water to a boil. Then sprinkle in a little more than a quarter as many cupfuls of meal as you have cupfuls of water. Keep this boiling, stirring it occasionally for ten minutes. Then raise the pail above the fire until it gets just heat enough to keep slightly simmering and steaming. It will be done in an hour. When you stir, by the way, reach all around the bottom to dislodge any meal that may have stuck there. In boiling, as in any kind of cookery, whatever sticks to the bottom burns and adds its peculiar flavor to the whole dish.

Rice is boiled in the same way. Such boiling will not give you the dry separate kernels that some cooks insist on, but it will give you a rich rice porridge that is much more palatable when there is no cream to eat with it. A little less than one cup of rice does for four cups of water, for rice swells enormously in cooking. A well-known camper tells this story about a cook who had n't made the acquaintance of rice.

"Once when we camped 'way down in Arkansas,' it came Bob Staley's turn to cook. Our commissariat was low; and Bob wanted a new dish. We had rice; and a Dutchwoman had given us some 'snits' (dried apples). Bob put dry rice and unsoaked snits into a pot till the vessel was almost full, poured cold water over them, and set the pot on the fire; then he went fishing. Rice and snits overflowed into White River, and White River went out of its banks that very night. Fact, I assure you!"

There are several breakfast cereals that will boil and thicken in twenty minutes, and are thus decidedly convenient.

If you are near a base of supplies you can vary your rations with a "biling," made up of a couple of onions and a couple of potatoes, and carrots, or other vegetables as they come handy, all boiled together for an hour or so. The addition of a little meat will form a good stew. If you wish to add twenty per cent. to the taste of your "biling," powder on to the surface and stir in rapidly a tablespoonful of flour.

A first-rate plan is to make your supper of cornmeal or oatmeal or rice, cooking as much as your boiler will hold. You can then eat half of it that evening, with butter or evaporated milk and sugar, or with corn-syrup; and there will be enough left over for the next morning.

THE BIG DINING TENT IN THE HOME-CAMP: SOME OF THE SLEEPING TENTS BEYOND

FOOD FROM THE FRYING-PAN

Frying, reduced to simplest terms, is cooking in hot grease. The grease may take the form of butter, or lard, or the fat of pork or bacon. Butter is the most expensive, and for the camper the most unavailable of greases. Lard is cheap enough, and may be carried without too much trouble. Bacon fat is the most convenient of all. To use it, all you have to do is to throw three or four slices of bacon upon a hot pan and let it frizzle there until a good deal of the fat is "tried out,"

as they say, and the bacon has begun to turn crisp. Then lay the bacon apart on a clean stone near the fire, and go ahead with the frying of anything you have on hand that is fryable.

Left-over oatmeal or cereal should be cut about an inch thick, laid in slabs on the pan, and allowed to remain as first placed until you see by turning up the end of one piece that a firm brown crust has formed. Then turn all the pieces, to give the other side a chance. So far as possible keep the pan at an even, high temperature, just short of a heat that would cause the fat to smoke and take fire.

Fried bacon and eggs are a standard camper's meal. Eggs are somewhat hard to carry in safety, but layers of crumpled newspaper and judicious packing will meet the difficulties, and the trouble will be well repaid in the end. To fry the eggs, begin with the bacon as before, and when the fat is ready crack the eggs on the edge of the pan and drop them into the fat, being as careful as possible about keeping the yolk or yellow of the egg unbroken. The eggs are done when the transparent part has all turned white. Just how to crack the eggs cleverly without spilling them into the fire or breaking them too much is a thing that can't be told, just as it is impossible to tell anyone how to flip an egg over to fry it on both sides for any who like their eggs turned. These are tricks to be learned by long practice. You can know a good cook by his way with eggs.

Various meats may be cooked satisfactorily by frying. No special instructions are needed, except that the pieces of meat should not be too thick. But a camper who plans to take most of his rations from home must plan to get most of his meat-food in other forms than beef-steak and leg-of-lamb. He must depend pretty largely on dried or cured meats. Chipped beef (dried beef) is one of the most convenient forms. To make an appetizing dish of this, prepare a flour cream or white sauce and put the beef in after cutting it into small bits. To make the sauce, put into the clean frying-pan a spoonful of flour for each person to be provided for, and mix the flour into a thick paste either with cold water or with condensed cream, salted, the latter producing by far the more palatable result. Work this paste over with the spoon until there are no lumps left. Then pour into the pan a quarter-cupful of water that you have in the meanwhile been bringing to a boil. Mix this into the paste as before; then add another quarter-cupful of boiling water and mix it in, continuing until you have added a cupful of water for each person. Now add the beef and give the combination a final warming for three or four minutes to cook the flour. Two or three pieces of butter melted on the top at the last minute add a finishing touch.

Shredded codfish may be creamed just as beef is. The box in which the codfish comes will tell you just how much of the fish should go to each cupful of sauce. Codfish and dried beef are both excellent foods, and convenient ones too, since when you carry them you are not carrying water. It is the water in foods that chiefly makes them heavy. That is why, for example, canned tomatoes and canned fruits are luxuries for the camper; the pleasure to be had from them is paid for by extra cartage.

Another sort of food that may be carried dry is pea-soup powder, called by the Germans who make it *erbswurst*, which means vegetable sausage. The powder is put up in waterproof, sausage-shaped paper packets, the paper being rendered waterproof by treatment with a certain chemical. And that should remind us of a very interesting bit of history. When Germany fought France some forty years ago, the German soldiers numbered up in the hundred thousands, and the task of feeding them was enormous. The meat sent into the field was chiefly sausage meat, and the commissary department soon found itself running quite out of sausage-skins. In the nick of time a German experimenter discovered that heavy linen paper could be chemically treated in such a way as to make it a perfect food-container; and so the problem was solved, and the huge army was well fed. Pea-soup powder needs only to be boiled for twenty minutes in unseasoned water. I shall never forget how good a steaming pint of it tasted on top of Mt. Washington one summer morning. My chum and I had slept close to the summit; and by sunrise the steady night wind had struck its chill right through our blankets. For breakfast we had meat sandwiches, and pea soup flavored with a small frying-panful of bits of salt pork fried

to a tender; and this meal warmed us and set us up for the eight-mile walk down the Crawford Trail.

BIRCH BARK

Perhaps you do not see the connection between cookery and birch bark. It is this: birch bark, the paper of the woods, is as useful as the German's paper as wrapping for rations. To get birch bark that will make your friends envious, go deep into the woods and look for a white birch, six or eight inches through, with a smooth, lustrous, fresh-looking bark. Look until you find a fresh, sappy-looking tree, for bark that looks rough and dry will not peel well. Between knots make a vertical slit, and take off the bark down to the green, leaving this latter uninjured. One such cutting of bark will yield five or six paperlike thicknesses, one to wrap around the butter, one for pork and bacon, the rest for drinking cups, for dippers, for a reserve supply, or for letters home. To get the thicknesses apart, begin at one corner and with the knife-edge start the first sheet away from the rest. Peel it off as far as it will go without tearing. If it shows the faintest symptoms of tearing, begin at another corner, and work up to the tearing point from another side. With care you can peel off large thin sheets that are altogether waterproof, and that will stay flexible for years, let alone days. Remember: go deep into the woods for your bark. Enroll yourselves as members of the informal order of good scouts who do all they can to protect the white coats of roadside birches.

ADDITIONS TO THE MENU

So far we have been thinking for the most part of solid staple articles of diet. To these we may now add some of the light, pleasant relishes that add variety and zest to a meal. For very short trips olives are worth while, in spite of the heavy glass bottles; and canned peaches or plums or pineapple are most agreeable. To make the bread more interesting, canned tongue works well, and cheese and sardines are good assistants also. If you are not sure of getting fresh milk, take along some evaporated cream. One person can very handily get away with at least a five-cent can a day.

Evaporated cream is particularly useful in the making of cocoa, the best of campers' drinks. Coffee and tea are for grown men, if indeed they are good for anyone; lads under eighteen ought to leave them alone. Cocoa is good, and strengthening too. To make a

PERFECT COMFORT ON WASH-DAY

single portion, put a spoonful of cocoa-powder into the big tin cup, and a quarter-teaspoonful of flour if you have it. To this add about half of a small can of cream, and mix the cream and the powder thoroughly together. Then fill the cup two thirds full with boiling water, and set it on the fire for about five minutes. Evaporated cream will also help to enrich the buckwheat cakes that you can make from prepared flour sold in small packets. Full directions for making the batter are given on the wrapper, and I'll not take time here to give them. Buckwheat cakes with corn syrup are a meal in themselves. At a pinch corn syrup will do all your sweetening for you and the cans it comes in are excellent containers for flour, sugar, and other powdery or mealy substances.

Water is not exactly on the menu; but, though we take it for granted in all our cookery, we should not take its purity for granted when we come upon it in our travels. Clear springs and streams running down unpopulated mountainsides are the best sources for water supply. Stagnant and slow-running

water from rivers and large brooks is to be held under suspicion. If boiled first, it may be safely used. If drunk without precaution, it will quite as likely as not make the drinker sick and weak within an hour, and perhaps lay him up with a serious illness.

THE COOKING FIRE

All this time we have been speaking as if the fire was a matter of course — as if we did n't have to build it ourselves, and know just how to build. As a matter of fact, a good camp cook must be first of all a good fire-maker. He need not necessarily know how to make fire by rubbing sticks together, but he must know how to prepare a good bed of coals for

FLAT STONE ROWS FOR A FIREPLACE

frying, and how to hang the kettle or the pail most conveniently over the flames.

It goes without saying that twigs and branches of hardwood trees like oak and ash make the most lasting coals. Soft wood and half-decayed wood will often light quickly and easily, but it will turn to dead ashes with equal speed. Oftentimes the best way to get dry, sound wood is to hack off dead lower limbs of trees. This is especially the thing to do when you have to build a fire after rain, or in fact right in the rain. When anyone first goes camping he is likely to let the rain discourage him from all attempts at fire-making. The veteran, on the other hand, flings his rubber blanket over his shoulders, and goes to work as cheerfully as if nothing had happened.

Let me give you a practical example of fire-making in the rain. A while ago I was one of a party that climbed Mt. Lafayette in the White Mountains. We left our base-camp in the morning; in the afternoon, on our way home, after an all-day climb we were caught in a very heavy shower that drenched the whole landscape, ourselves and our camp included. That was not to come between us and a hot supper, however. From the heart of some heavy trees we cut branches that had hardly been touched by rain. With our hunting knives we cut a few of these into slivers, and at the bottom of the pile we put some freshly gathered birch bark, which is as inflammable as pitch pine. In twenty minutes we had a blaze going that nothing but a cloudburst could have put out. To allow for unexpected rain the thoughtful manager, by the way, will lay in an extra supply of firewood while the sun is shining, and put a rubber blanket over it or keep it under the camp-shelter against a rainy spell. This dry wood will be needed only for starting the fire, as a fire once well started will itself dry out wet sticks laid near it.

A very convenient fireplace is one made of two rows of flat stones coming together in a V-shape. Where the stones are wide apart you can keep the fire going brightly. Over this bright fire you can hang the pail to boil, and from it you can keep raking live coals into the point of the V, where the frying-pan may be handily set.

Long experience has taught me that the simplest and yet the handiest way to hang a pail over the flames is to use not two forked sticks, but one, with a long trailer running from the crotch to the ground. Get a forked stick about four feet long, set it six or eight inches into the ground, and then pile rocks around the base. For a trailer use a stout fifteen-foot length of green sapling. Twine or wire will serve for pothook. The trailer may be shifted a little to one side or removed altogether by one man, whereas with two forks it takes two men to remove the cross sticks. Of course if there is a tree at hand with a fork about three or four feet from the ground and no interfering branches, the trailer may be set in this natural fork. See on the next page how it works.

If you are making a fire for warmth and not for cookery, you will do well to build it between large logs laid parallel. A fire that will feed itself and last all night may be made after the scheme shown in the illustration. As fast as the lowest log crumbles, a fresh log drops into place.

SHELTERS

I am not going to say much about shelters. They may take the form of tents, of lean-to huts and many other kinds of huts, or of dug-

BOILING THE WATER

outs. I never knew a boy who did n't like to build huts; and it is fun to imagine oneself off on a tramp and actually manufacturing one's own protection against rain and wind. But just between you and me, the truth is that when you come to the end of a day's walk you don't feel a bit like building a shelter. What you really do, if you're like me, is to find a pine grove, with soft needles for a natural bed, and with interlaced limbs above to ward off most of any rain that may fall. If pines are lacking, other groves may be found.

Furthermore, tents to be carried on shoulders are nuisances. It is lots of fun to think about them, and how they may be improvised from waterproofed sheets, and what the best shape for them is. Tents are interesting, and for permanent camps they are indispensable; but for real hiking they belong with the "Patent Dingbats" mentioned a while since. In fact, the last hikers that I saw carrying shelter tents had loaded themselves down with a full sporting catalog outfit; and when I met them near the top of Mt. Washington they were thoroughly tired of "wrinkles" and fancy improvements.

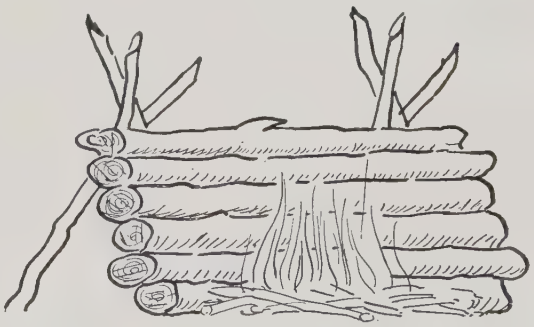
Perhaps you won't agree with me about shelters. If that is the case, no harm is done, and you can experiment and try out your ideas without any advice.

LOST IN THE WOODS

If you could hover in a dirigible balloon over a forest and observe someone trying to make his way continuously in the same direction without compass, you would notice that try as he might he would keep veering to the right or to the left. Every one of us has a slight tendency to keep giving away a little to one side or the other. This trait was the cause of a tragic accident in the case of two men out shooting deer. One of the two grew weary and said he'd sit down and read a book he had in his pocket, and loaf while the other hunted for an hour or so. The other one set off in what he supposed to be a more or less straight line. After he had walked about three miles in the woods, he saw some indistinguishable object stirring in the undergrowth ahead. He fired on it, and found to his horror that he had seriously wounded the friend he had left behind. Without suspecting it, he had turned a complete circle and come again to his starting-point.

It is this same tendency to walk in a circle that gets people into difficulties when they lose their way in the woods, and hence the value of a pocket compass. If you have no compass, and the sun is shining, you can make your watch serve the purpose. Point the hour hand at the part of the horizon just beneath the sun; then south is halfway between the hour hand and the twelve o'clock mark.

Of course a compass is of little use if you do not know the general "lay of the land," and



A FIRE TO LAST ALL NIGHT

the general direction you should take to get to camp, or to a beaten track that will lead you there. For this reason you should get the map habit, and always study the rivers and ponds and mountains and trails of the country you are tramping in. Write to the director of the

MT. WASHINGTON FROM JACKSON, N. H.; WOODS TO GET LOST IN

Coast and Geodetic Survey, Washington, D. C., and ask for a key-map covering the section you live in. By means of this key-map you can order the remarkably good ten-cent maps that the government publishes.

If you lack a compass, climb a tall tree on a hilltop or hillside, and you will in most cases make out some landmark that will be a sufficient guide. *And*, keep as cool and collected as you can, and think the problem out slowly. You 'll not starve over night.

TRAIL MARKS

If you wish to mark a trail so that another can follow it or so that you can find your way back along it, use the Indian trail marks, broken or bent twigs and branches, broken plant-stalks, or one stone set upon another. Many frequently-used mountain trails are carefully marked throughout their length by little heaps of stones, often set there by guides or by clubs of mountain-climbers. The most notable of these clubs, the Appalachian Mountain Club, takes excellent care of countless trails, and builds and keeps in order a number of log shelters near the tops of mountains. Every true camper in the eastern part of the country ought to be ambitious to belong to this club some day.

Permanent trails are usually blazed by chopping off flakes of bark from each side of a tree every ten yards or so, in order that in winter, when the snow covers the foot-marks, a tramper looking in either direction may see which way to turn.

When the spring freshets are over, the footways soon become worn down again, and one finds one's way more by looking at the ground than at the trees.

The Indians had a code of signals expressed by stones and blazes. A stone with a stone upon it and another to the right of it meant turn to the right, and correspondingly for turn to the left. Three stones, one upon another, meant danger ahead. A broken branch or weed laid on the trail meant, go where the butt of the stalk points.

On the prairie, where there were no stones, tufts of grass were tied together to mark the

trail. A single blaze showed a straight trail. A blaze facing you, accompanied by another blaze on the right side of the tree, meant turn to the right. Three blazes, one above another, meant difficulty or danger ahead. Two smudge fires built side by side meant "Help! I am lost!" Three fires meant "Luck is with us! The enemy are routed!" Four fires was the general signal for a council.

FIRST-AID SUGGESTIONS

No soldier goes into battle to be killed, and in the same way no camper goes on a hike to get himself hurt. It has been my experience that exceedingly few campers do get hurt. It is every man's duty, none the less, to know what to do in case of injury, and so a few hints will be given here about the most important first-aid measures.

The handling of drowning accidents is dealt with in the article on swimming in this volume. In the case of sunstroke, the important thing is to keep the patient cool, by getting him in the shade first, and then by the use of cold towels or if possible sheets wet with cold water. In this case, as in all cases where consciousness is lost, it is important to loosen belts and neck-bands in order to encourage free circulation of the blood. This is obviously true when any one has fainted, for fainting is due to a lack of blood in the head. The person who has fainted should be laid with the head lower than the body, and anything should be done that will increase the circulation, like chafing the limbs or holding a handkerchief slightly moistened with ammonia near the nose. One who has been stunned by a thunderbolt may be revived with cold water dashed over him.

Ordinary cuts should be cleaned as well as possible and then bound tightly to stop the bleeding. If a hand that is cut is held above the head, the blood-pressure in it will be lessened and the bleeding will stop the sooner. A person with the nosebleed should sit down and keep very quiet. Pressing the gums just over the front teeth helps to stop the trouble. Deep cuts that reach an artery should be attended to with tourniquets. An improvised tourniquet may be made of a handkerchief knotted in the middle and tied about the injured limb so as to bring the knot just above the cut. The handkerchief is then twisted tight with a stick.

Burns or scalds should be covered with a thin paste of baking-soda, or with flour, or any oily substance, like vaseline or lard. These coverings keep out the air, and that is the important consideration. Insect stings may be treated with oil, diluted ammonia, very salt water, iodine, or even with plain mud. Cinders or other particles in the eye will usually be dislodged by a loop of hair slipped under the lid affected and then pulled gently out while the finger presses the lid against the eye. If the particle is on the eye itself, a good instrument to use on it is the wetted end of a small roll of thin, soft paper.

A WILD NIGHT ON CHOCORUA

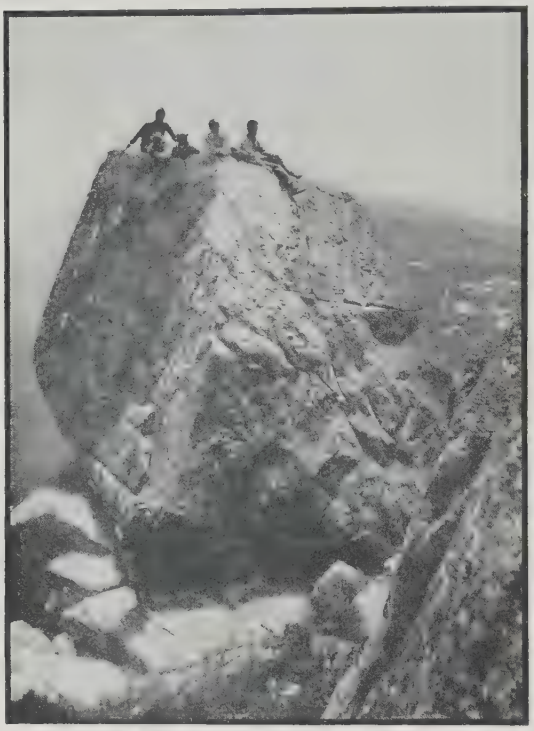
IN all the many camping trips I have been on, there has never been one serious accident. Accidents are n't likely to happen, as was said above, if common-sense precautions are made habitual. These precautions need not interfere with the adventurousness that is part of the fun of living out-of-doors and far from roofs and civilization. As a matter of fact, no precautions — at least none that any normal person will take — can stave off an occasional drenching in a thunderstorm, or an occasional loss of the right path, or an occasional emptying of the pocketbook before home is reached.

One time I climbed a mountain with a party of about twenty boys. The mountain was Chocorua, a handsome peak in the White Mountains, fifty miles or so south of Mt. Washington. The summit of Chocorua is for a half-mile a grand mass of sheer rock; below the bare rock extend mile upon mile of forest, sweeping off into a great level plain in one direction and in the opposite direction extending to a sea of mountains, each peak a wave, as far as eye can reach.

By supper-time we had climbed up the long Hammond trail and arrived at the "peak-house" just above the timber line; and by night-fall we had reached the very top. We laid our blankets in whatever sheltered crannies and hollows we could discover, and then we

stood in the racing breeze to watch the flaming sun, half smothered in black clouds, sink into the sea of hills.

When the dark came on we snuggled into



CHOCORUA ROCK

Near the summit is this huge boulder. In the dim distance you can faintly make out the misty lake-country three thousand feet below.

our blankets and, drugged with weariness and fresh air, dropped off to sleep. But we had not rightly read the meaning of those black clouds in the west; and our peace was presently disturbed by the pattering of large raindrops on our rubber blankets. We had slept about an hour and a half: there was to be little more of sleep for us that night. Thunder rumbled in the distance and rapidly came closer and closer. The rain began falling in good earnest. By quarter to eleven we were a huddled and rather scared crowd on our bleak mountain-top, in the midst of a ferocious thunderstorm with bolts striking all around us; and by eleven, when the lightning had gone past, we were all of us wet as rats.

We had been making discoveries. We had discovered that we had laid our blankets in the prospective beds of rivers and ponds. In the cuplike hollows where some had been bunking, so snugly out of the wind, the water actually filled in three or four feet deep; and miniature torrents ran down the necks of some who desperately wound themselves tighter in their blankets, as if that would do them any good. We were wet, wet, wet. There was only one dry person among us, and that was a boy who got right up as soon as it began to rain, wrapped his woollen blanket around his shoulders and his rubber one over that, and stood out the storm.

To be wet is not particularly uncomfortable. But to be wet *and* cold is not only uncomfortable, it is dangerous. The four guides, of whom I was one, had a conference. The party was in a fix, sure enough. A cold wind followed the storm and grew stronger and colder every minute, blowing out of the pitch-black night. Not all of the boys were sturdy, and there was imminent danger of pneumonia. What a pickle it was! Everybody soaked, a chill wind blowing, daylight four or five hours away, and no possibility of scaling down the steep peak-rocks in the dark, to gain the shelter of the house a half-mile below.

The impossibility of getting down in the dark was proved by the two strongest guides, who set off, armed with a pocket flash-lamp, to reach the house and bring back some brandy for any who might be taken with chills. They tried valiantly for a half-hour to make their way down the trail; but after going but a few rods they were almost swept off their feet by the rain-freshets that rushed down over the bare rocks. They dared not risk going further; they came back baffled.

In the meantime I had organized the strangest gymnastic class that ever drilled, on a mountain or off it. We lined up by the light of the stars and went through a series of arm slappings and body bendings; we followed-the-leader in a short trot around and around the little plateau upon which we were virtual prisoners; we paired off and gave each other brisk massage to warm our backs; and then, after a brief rest, we did all these things over again. Fire was out of the question; there was nothing

to make one with. We had to get heat from within, and that is just what we did by keeping in active motion. We kept these strange evolutions up for almost two hours, and long, strange hours they were. By and by drowsiness began to get the better of discomfort. Most of the lads curled up in their wet blankets, in pairs for the sake of warmth, and dozed off gradually into deep sleep.

Daylight came at last. We gathered up our sopping property and marched down to the house, where a round of sandwiches and steaming coffee and cereal put a new face on things, and made us readier for the eight miles of muddy road that lay between us and the hay-wagons that were to carry us the rest of the way to the permanent camp. What an eight miles that was! It was my luck that day to bring up the rear, and I mustered a rear guard that set me off occasionally into shouts of mirth, though the guard was as crabbed and solemn as semi-invalids can be. Paul had an attack of weak ankle. "Lucy," as we called him, had gone lame in both ankles. "Fat" was chafed. "Beany" was down and out from toting a dozen extra pounds of water that had soaked into his blanket-roll. And "Weary" was weary of course. By dint of singing some tunes and whistling others, with streaks of conversation thrown in, we managed partly to forget our comical woes; and at last we trailed up to the hay-ricks, and the signal for moving was given. No hay-wagon made could jolt hard enough to keep most of us from sleeping out the ride.

It was a wild night we had had. But we had stored away scenes and impressions that we shall always enjoy remembering. And, most significant fact of all, not one of us had so much as caught cold.

ON THE EYEBROW OF MT. MADISON

Another night that I shall never forget I spent on the rocky heights of Mt. Madison, one of the "Northern Peaks," as they are called, that rise just beyond Mt. Washington to an altitude almost as great as that of the grand old chief of New England mountains himself. There were seven of us, two oldsters and five youngsters, not so young but that they were good for their twenty mountain miles a day. We climbed Mt. Washington, the six thousand feet of it, in the morning; and in mid-afternoon we set off along the trail over the Northern Peaks, intending to spend the night at the

THE PARTY HALF-WAY UP CHOCORUA

Madison Hut, maintained by the "A. M. C.," the Appalachian Mountain Club. By late afternoon we had come within a mile of our destination; and then bad luck descended on us in a threefold packet. Darkness came down from a suddenly beclouded sky; heavy mist set in; and we took a right fork in the trail when we should have taken the left. To turn to the left meant a short descent to warmth and comfort; while to turn to the right meant the unexpected and uninvited adventure that you shall now hear about.

The trail began to rise instead of descend, but that did not immediately disturb us, as we had been going now up, now down all the afternoon. But the trail kept rising, and after twenty

BREAKFAST IN THE MIST, NEAR THE PEAK OF MT. MADISON

minutes we began to wonder why we had n't seen any such ascent on the map. Finally we got to the top of the rise and began the descent of the other side. We were now almost certain that we were going the wrong way; but it was too late to go back. The darkness became heavier and heavier. We could just see the trail, and just make sure of one step at a time over the heaps of piled-up, jagged rocks. Down the trail we cautiously felt our way, our only hope for a snug night's rest lying in the fact that most of the paths in that neighborhood lead sooner or later to Madison Hut. But the darkness grew really impenetrable. We could no longer see the trailmarks, but actually had to feel for them; and, when presently one of the party took a bad tumble and nearly broke a leg in a rock-crevice, it was plain that we could go no farther.

There we were in absolute darkness, with a mist falling that was almost a rain, and with no more than a vague idea of our whereabouts. But we had haversacks full of "grub," we had any amount of good will and good spirits, and some of us were old hands and had been "in trouble" before. So we chaffed and laughed, and things weren't so bad after all.

We had arrived at a point where the trail ran between low scrub-cedars. We felt around in these for the driest inside boughs and soon had hacked out a pile of soggy firewood. Tales are told of smart woodsmen who under favorable conditions can bring a two-quart pail of water to a boil in a trifle under eight minutes from the first stroke of the hatchet to the bubbling of the water. But I must confess that it took us a half-hour to make sure that we had a fire at all, to say nothing of doing any cooking on it. At last, after using all of our paper wrappings and about all of our spare breath, we did get a blaze started, and in another half-hour we were eating meat sand-

ALONG THE RIDGE FROM MT. LAFAYETTE

A MAGNIFICENT VIEW OF MT. WASHINGTON AND THE ROLLING, SWEEPING COUNTRY ABOUT IT

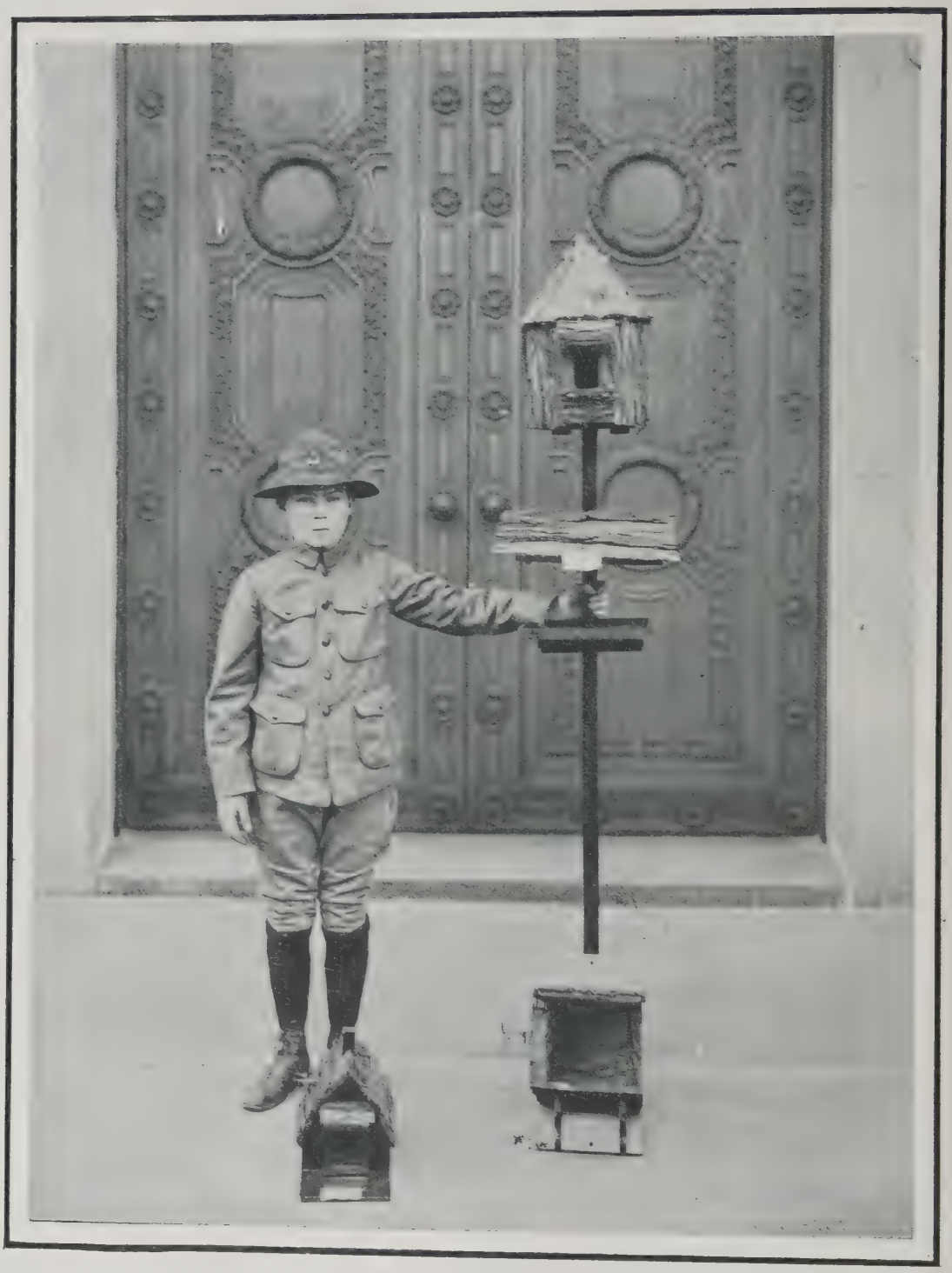
wiches, steaming baked beans and cocoa, and canned peaches, just as happy as the lords of creation in their baronial halls.

THE MOST PERILOUS INCIDENT OF MY MOUNTAIN EXPERIENCES

I'll not try to tell you how we slept that night. I don't know how we did it, except that we thrust our way and butted our way into the cedar clumps, and crawled, clothes and all, into our sleeping bags, and — slept. Next morning the mist was still heavy, but we found it easier to get breakfast. After breakfast came the question of getting to the hut, and so to the trail down to Randolph and the railroad that was to take us over to the foot of Mt. Lafayette, the next peak we were to climb. In getting his bed made the night before, one of the boys had dropped his camper's hatchet and heard it tinkle down a long way over the rocks, as though the slope was considerably steep. Well, after breakfast we sat awhile and watched the mist thin out in the August morning sun. All of a sudden the whole mist-bank gave one of those surging lifts that mountaineers grow used to, and there spread out at our very feet almost, the sweeping depths of the Great Gulf. Ten paces from where we had slept began the swift descent, and a body falling over the edge would have tumbled into a vast amphitheatrical gorge four thousand feet deep. We had camped on the eyebrow of Mt. Madison.

Memories like these stay fresh and vivid as long as any memory lasts. When old campers come together the old adventures and mishaps are gone over for the twentieth time without ever growing stale. We call to mind the old hikes, and we think again of "Dick," and "George," and "Lucy," and "Fat," and "Shan," and "Sal," and "Billy," and dozens of others. We laugh over the queer shifts we were sometimes put to, the queer scrapes we got into and got out of again. We dream a bit of royal days full of mountain winds and mountain vistas. And in the end we know as well as we know anything that there is no sport in the world so fine as camping out among the hills.

L. R. G.



TYPICAL BOY SCOUT OF AMERICA

Winner in a bird house contest. Hundreds of Scout councils run these contests annually.

PRACTICAL ACTIVITIES FOR WIDE-AWAKE BOY SCOUTS

[In the following pages Mr. Ormond E. Loomis, Scout Commissioner of Greater Boston, an enthusiast and expert, tells of exercises, games and useful activities which he has tested. These are the things every boy wants to know and try for himself. With the history that follows, the Boy Scout Movement is finely set forth. The pictures speak for themselves.]

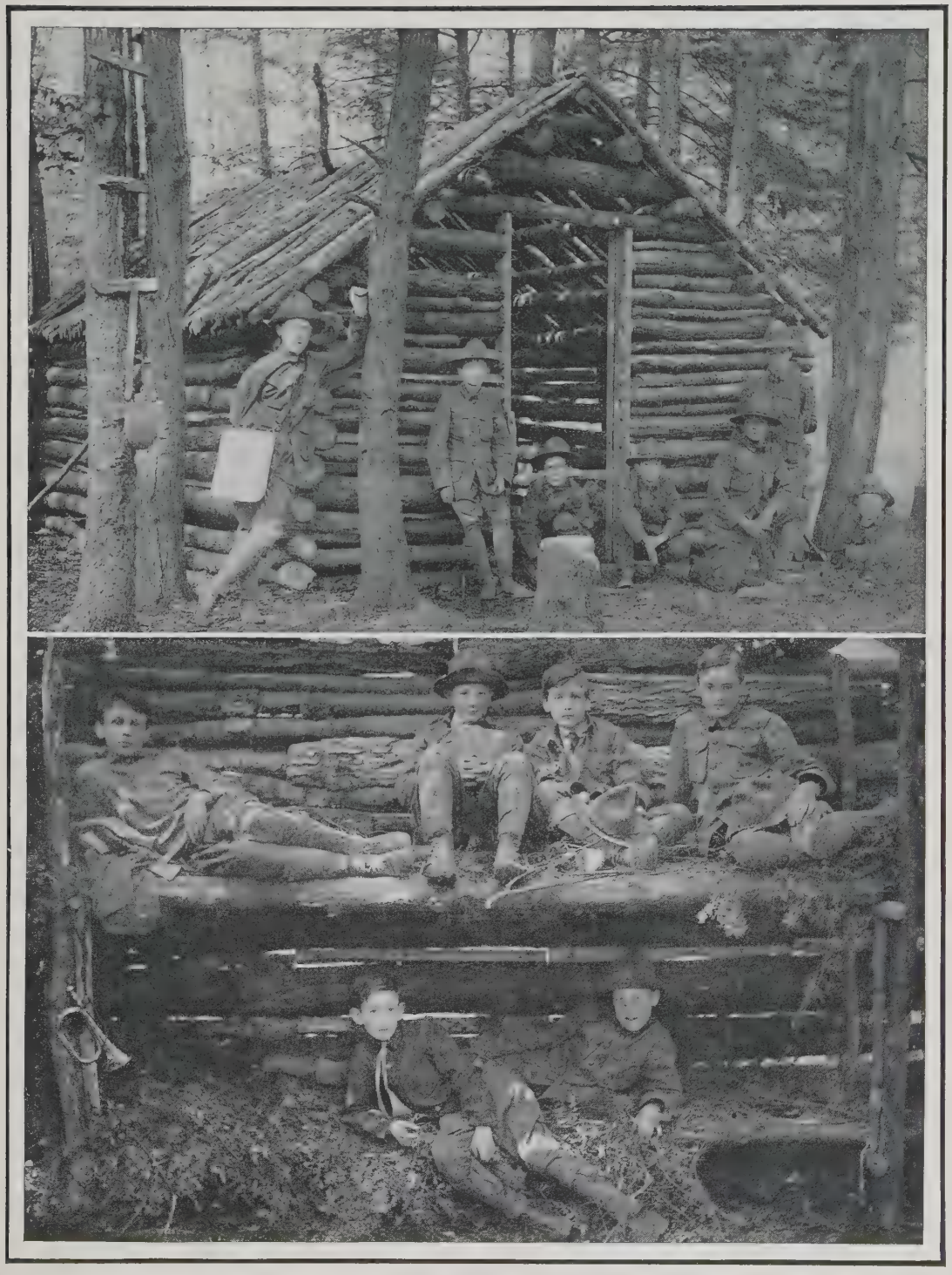
EVERY energetic fellow loves action, and action he should have. The weak and the pampered may passively rely on others for their amusement, and while content to do so remain weak, flimsy, and undeveloped. But the hearty and robust scorn passivity. They want wholesome worth-while exertion that demands red blood, brawn, endurance, and mental alertness — action spiced strongly with uncertainty and daring.

Perhaps it is chiefly because Scouting furnishes this means of exertion that it has become so generally popular. Be that as it may, a Scout, and every other fellow who would make something of himself, needs a generous assortment of competition-provoking, muscle-taxing, brain-developing recreations. Many of the games described in the Boy Scout handbook and elsewhere are suggestive and supply a clearly outlined plan for individual and group exercise. Those require no attention here. Some, however, that have been changed to advantage, and still others not now included among our universally popular pastimes, that have grown from the interests and abilities of special groups, deserve explanation because they have been well tried and found useful.

One word though before that explanation is given. Whoever would get the most out of any game, must, in addition to using his brain and muscles, throw himself with all the enthusiasm, strength, and vigor of his nature into the spirit of the game, playing to win and playing as a gentleman. No remorse, loss of self-respect, or dwarfed manliness can follow. In-

TRACKING IN THE SNOW, AND A FIRE-BUILDING COMPETITION IN THE SNOW

The winter sports are among the most attractive and healthful of the year.



THE HAWKS' NEST — A CABIN BUILT BY SCOUTS IN A FOREST

In this way the boys are learning a real work of construction.

stead there will be the full rich flavor of healthy sport that outlasts the memory of the game itself and provides the legitimate stimulus for larger, keener competition in the future.

WRIST WRESTLING

Any even number of fellows may play this game, provided a long enough pole can be procured. The boys take sides. Each grasps the pole tightly with his two hands. Have the hands alternating, that is, first a hand from one side, then from the other — no fellow having his two hands together.

At the signal "go," the players on one side endeavor to turn the pole by means of their wrist strength against their opponents. The side able to do this wins.

This game, while not strenuous, is excellent for strengthening the wrist and lower arm muscles, and cannot help but develop endurance. No fellow should say "die" until every sinew is too fatigued for further resistance.

INDIAN HAND WRESTLING

Choose two fellows of about equal size and weight for this game. They take their places, facing each other, their right feet side by side across a line drawn on the floor or ground, their right hands clasped, their left feet braced and their left hands free.

When the signal is given, each endeavors to unbalance the other and at the same time to hold his own position firmly. A lifting or movement of a foot ends the round.

Before beginning the boys should agree on the number of rounds. The contest is best out of 5, 7, 11, or 13 rounds.

BADGER PULLING

In this game contestants must be of about equal size and weight. The players take their places on their hands and knees facing each other, one on each side of a line on the floor. A strong belt is fastened about both their heads, crossing the napes of their necks. The boy who, keeping his own hands and knees on the floor, is able to pull the other across the line by means of the belt about his head wins. Either contestant may at any time end the bout by lowering his head so the strap can slip off. This counts one against him, however.

ELEVATED BOXING

For this, let sides be chosen, an even number on each. Those on a side group themselves in pairs. The heavier boys will serve as the "elevators," while the lighter ones, armed with boxing gloves, mount to their shoulders. At the signal to go, the match begins. The "elevators," holding the "boxers" firmly by the legs, keep close watch of them, being careful to get them in position to strike a good blow or ward it off as the case requires.

When time is called, the side having the larger number of men mounted wins.

BARREL TILTING

This is played by two fellows, each equipped with an eight-foot pole, well padded at one end. At the signal "get ready," they climb upon the ends of two barrels placed six feet apart. At the word "go," they thrust at each other with their poles, aiming always for the chest. Any thrust below the waist or above the shoulders is a foul, taking off one point. Every victory gained, by displacing the opponent from his position on the barrel-head, counts two.

The game may be set for any number of points desired.

TABLE QUOITS

This game is played with counters across a table. In the center on each side of the table, about three inches in from the edge, draw two sets of circles, the inner one about three inches in diameter, the outer one about five. The players — any even number, though four or six is best — choose up and take their places on opposite sides of the table. All the boys on one side play first, then those on the other side take their turns. Each boy may have not more than five counters.

The boy playing places one of his counters on the very edge of the table, and snapping it with his thumb nail sends it sliding toward the circles on the opposite side of the table.

A SCOUT SUMMER CAMP

In their summer outings the boys learn the joy of a simple life.

The boys on a side take turns playing their counters, one at a time, until they have used all, after which the other side takes up the game.

A counter over the center mark of the circle scores three points. Those in the inner circle count two, those in the outer one. Fifty points is a good total for a side to play for.

If it is preferred not to have the boys play taking sides, but rather to have each play for himself, this may easily be done. In each case though either each boy must play all his counters at once and then remove them, keeping his score, or else counters of different colors may be used, each boy having his own color. This latter is to be desired, as it allows the boys to shoot turn about.

GAME OF ODORS

This game is interesting as one testing the sense of smell, and showing how, after a number of odors have been sniffed, a person may become unable to distinguish them readily, though he may otherwise be perfectly familiar with them.

Have in a number of small bottles, each numbered for the sake of reference, and corked, as many different liquids having odors as one can collect—as for example ammonia, kerosene, peroxide, vinegar, gasolene, etc. The players, one at a time, are given these to smell, and then asked to write on a slip of paper handed them, opposite the number of each bottle, the name of the liquid contained in each.

After the first few are guessed, it becomes most amusing to see how confused a person may become as to what the smell belongs to.

KIM'S WINDOW GAME

Let there be some older person, namely, a Scout Master, to supervise this game. He must have in mind one half as many different store windows which he knows to be well filled with a variety of articles as there are boys playing. The more varied the store windows, as drug, hardware, dry goods, etc., the more interesting the game. Now let the boys choose sides. Two boys, one from each side, are assigned to one window. They are given three minutes to study the contents of the window. Then they return to the starting-place, are supplied with pencil and paper, and requested to make a list of the objects seen in the window. The boy with the longer, accurate list wins over his opponent, and the side with the greatest number of boys coming out ahead is victorious.

HIT THE RUNNER

Form a large circle, standing with your hands behind your backs — the right hand open, the left hand grasping the right wrist. One boy is chosen to go outside the ring. Taking a handkerchief with a good-sized knot tied in one corner, he runs around the circle, slips it into an outstretched palm, and makes away before the boy with the handkerchief can get near enough to strike him with the knotted end. The first runner then takes the place in the ring vacated by this boy, who in turn disposes of the handkerchief in like manner. If the first runner gets hit, he must try again.

If there are enough present to make the ring large enough, the game may be made more exciting by having as many as three boys with handkerchiefs running round at the same time. This requires that the players keep more alert, making sure of the right boy to give chase to, and remembering what place in the ring to head for.

WOLF AND SHEEP

Although very simple in itself, this game affords plenty of fun for a group of boys when played in the open. It may also serve as an indoor game in a good-sized clubroom.

Two boys are selected — one for the wolf and one for the sheep. The other fellows join hands about, forming a large ring. The "sheep" takes his place inside this, the "wolf" outside. At the signal to start, the wolf makes for the sheep, who dodges him in and out of the ring. The "keepers" do all in their power to guard the sheep, holding the wolf off. The wolf in turn must endeavor to get through the ring after the sheep, going under, over, or even breaking it if possible. This necessitates that

TOP: SCOUTS DISCOVERING NOTE UNDER CLUMP OF SOD, HAVING ACCURATELY FOLLOWED DIRECTIONS GIVEN IN PREVIOUS NOTE. MIDDLE: DEPOSITING A NOTE IN THE CREVICE OF A ROCK. BOTTOM: INDIAN HAND WRESTLING

A GROUP OF SCOUT ACTIVITIES

Top: Nature study, the difference between high and low bush blueberries; and building a signal tower. Middle: First aid practice, and the fireman's lift. Bottom: Bandaging a wounded arm, and a camp stove made by placing a clay-covered platform over a small log pen.

those in the ring have a very firm grasp on each other's hands and keep on the alert to ward off the wolf's onset, which may come with such force as to cause the whole line to sway in or be broken through.

As soon as the wolf captures the sheep, another pair take their places.

KEEPS

For training the eye and strengthening the muscles of the arm, "keeps" is an excellent game. The game is probably best fun in a large empty room, though it can be played outdoors, where a high board fence or side of a barn may take the place of a wall, and where the ground is level and free from stones.

On the floor or ground, about half a yard out from the wall, draw a single circle about one foot in diameter. Inside this circle each player must put a certain number of counters.[1] Then, at a distance of about seven feet straight out in front of the circle, parallel to the wall, draw a short line. This is the boundary line in front of which no player must step during his innings.

Now toss up for the order in which you are to play. The boy whose turn it is takes the ball (an ordinary tennis ball serves the purpose), throws it so as to land inside the circle, then strike the wall in back and return to him. Any counters he manages to knock out of the circle with the ball, he keeps — so long as he catches the ball before it touches the ground after striking the wall. If he "muffs" the ball, the counters which he has knocked out are replaced in the ring and the next player takes his turn. When one boy fails to catch the ball or steps over the line drawn as a boundary, his inning is finished and he must wait till his turn comes round again.

The game ends when the ring is empty. The player with the most counters wins. The person getting the last counter out of the ring takes his turn first in the next game.

SKINNING THE CAT

This pastime, so valuable for strengthening the muscles of the arms and back, has not the popularity with us which it held in our grandparents' days, doubtless because we have n't the beams and ladder rungs they had at hand then, tempting us to "chin" ourselves.

To "skin the cat," grasp a horizontal bar or beam a little above your height. Gradually lifting your feet before you, bend your body so as to bring them up over your head putting them through between your hands and down, till the weight of your body pulls on the opposite muscles of your arm. From this position pull yourself back to the starting-point.

Get a group of boys to line up and try this. The one able to do it the greatest number of times in succession is, of course, the victor.

OBSERVATION GAME

Place a large number of articles of all varieties on a table. A boy blindfolded is led up to the table. Then the bandage is removed from his eyes, and he is allowed just one minute to observe the articles on the table. The binder is returned and he is led away. Then he is given pencil and paper and asked to write a list of what he has seen.

The boy who observes and remembers the greatest number of articles wins the game.

TIGHT-ROPE ACROBATICS

Nowadays tight-rope walking is not ordinarily considered to be of great practical value — perhaps because it is practiced so spectacularly by circus gymnasts and others who do little to show its real merits. The fact, however, that it plays an important part in the physical training of every English soldier, and that he is required to practice it as much as target-shooting, indicates something of its worth as a muscle and nerve-controlling exercise.

The English soldier practices walking along the edge of a plank first at a height of one foot from the ground, then two, and so on until he reaches five feet. If after a little practice he is able to walk this for a distance of fifteen feet his chances for becoming an expert marksman are hopeful.

A Scout or any other fun-loving boy, eager

[1] These are small pieces of metal or the like used in reckoning. Small stones of equal size will serve as well as anything in this game.

SCOUTS FELLING TREES FOR A LOG CABIN

The tree that lodged, showing the use of the rope ladder.

BOY SCOUTS "CAPTURING A RED" IN THE BEVERLY GAME

to improve himself, could profit by this sort of training, beginning with the plank or rope only a short distance above ground and gradually increasing the distance after practice. Simple as it sounds, a group of boys will be fascinated in attempting to perfect themselves in this art. It cannot help but make a fellow more evenly poised in carriage, and foster in him confidence, pluck, and a steady nerve.

THE BEVERLY GAME

The Beverly game, so called because first developed by the scouts of Beverly, Mass., closely resembles the old favorite Relievo and is played as follows:

First take sides, an equal number on each, and choose leaders. To distinguish its members, each side has a color, the boys wearing strips of ribbon of that color on their right arms. Then the sides may be designated by the colors, as for example — the Reds and the Blues.

Before setting out, agree upon a certain tract of woodland to be used for the game. One of good-sized area, say two miles square, and divided by a small stream, is preferable. Each side is allotted half of this area. The side having to travel the longer distance to its headquarters is allowed to set out in advance, so that both may arrive at the same time. Here, in about the center of the woodland, each side marks off with stakes or logs, found lying about, a ring, about fifteen or twenty feet in diameter. This becomes known as the "pen" and is reserved for prisoners captured from the enemy. About twenty feet outside this inner ring is another ring, marked at intervals by having the side's color tied on the trees or bushes.

The location of the rings is known only to the side possessing them, and it is the aim of the opposite side to discover where they are. With this intent, the players on each side set out for the enemy's territory. Each boy must avoid being captured and at the same time try to take as many prisoners as possible. A fellow can be taken prisoner when he is outnumbered by his enemies, either on his own or his enemy's territory. Then he is placed in the enemy's pen, and can only be redeemed by having one from his own side break through the inner ring

or prison without being caught by the opposing side.

The game is really finished when all one side is imprisoned, but as this has never been known to happen it generally continues till dark comes on, or for a limited time determined by the players before beginning the game.

AN ENSAI-TAI HIKE

To carry out this game, which, by the way, is an adaptation to Scouting of the Japanese game, Ensai-Tai, a little preparation must be made the day before by a Scout Master or some older person who goes over in the reverse direction the route he wants the boys to follow on the hike. At intervals, along the way, he leaves notes tucked in trees, under rocks, or in any good hiding-place. Each note is hidden in such a way and place that its location may be described accurately in the next one.

The hike is of most value when undertaken by several groups setting out about half an hour apart. The Scout Master, who as a rule does not accompany the boys, gives each group instructions at the start, telling the location of the first note. This note will tell where the second one is to be found — a half mile or so away, depending on the nature of the country. The second will locate the third, and so on.

After finding and reading the directions, each group must return the notes to their hiding-places, having just affixed its sign or signature. The last group to set out collects the notes and returns them to the Scout Master, who awaits the coming of the boys at the end of the route. Each group should keep a record of the time taken in covering the distance, and each boy should be able to give an accurate report of things observed, handing a list of these, made out at the end of the hike, to the leader of his group. The system of scoring decided upon must take into consideration

BOY SCOUTS CROSSING A STREAM

the three following items: (a) Time taken to cover route. (b) Condition in which the notes are left. (Boys may get excited and forget to hide the notes carefully. This should count as a foul against them.) (c) The best report of observations by a group as a whole.

The group having covered the route in the shortest time, having left the notes properly concealed, and making the best report, as a whole, would be considered the victor.

In giving directions for the hike, use should be made of all kinds of scoutcraft, such as compass-reading, identification of trees, distance-judging, etc. The more varied these are made the more fun the hike will prove. If the Scouts are familiar enough with some signaling code — Morse, Continental, or Myer — directions may be given in this. As an example of one of the notes let me give the following:

"From this point follow this road one half mile, due E. to a clump of three large pitch pines on right side of road. From there N. N. E. over the hill to car-line on other side. Further instructions will be hidden under large granite rock fifty yards from an oak near point where you cross car-line."

Such a game as this is valuable for increasing powers of observation and developing resourcefulness; and, because of the amount of uncertainty involved, it fascinates every alert, energetic boy.

SWIMMING

Every boy should know how to swim. Many of the bathing and boating fatalities that occur so frequently could be prevented if only the victims or the bystanders had a knowledge of swimming. With so many opportunities for special, often free, instruction in swimming and life-saving, normal fellows to-day have little excuse for not knowing how to save themselves and others from death by drowning. The best swimmers tell us that only two things are necessary to make an expert. The first is confidence, the second, practice. For anyone learning to swim, simple contests with which he is familiar, including racing of all kinds and easy diving, are most valuable to develop confidence and afford practice. Those who are advanced in the art will take a keen delight in more venturesome stunts. The following three contests will offer them excellent opportunity for use of all the skill they have acquired.

CANOE TILTING

Those who would participate in this game must be experienced swimmers and thoroughly acquainted with handling a canoe.

Although the game can be played with only four men — two to handle the canoes and two to tilt — it is best when played with six men, three on a side. Two of these, the heavier at the stern, the other near the bow, paddle the canoes. The third man in each canoe, called the "spearman," stands directly in the bow of the boat, holding a ten-foot pole, well padded at one end.

The canoes take their positions directly opposite one another about a hundred feet apart. When the signal to start is given, they dart forward, each headed directly for the other. The spearman, meantime, is poised firmly in the bow of the canoe, ready to thrust with his pole. One end of this he holds in his hand resting on his hip. With the other hand he grasps the pole at arm's length in front of his chest.

The idea of the game is for each spearman, by thrusting the padded end of his pole at the chest of his opponent as the canoes are headed together, to dislodge him from his position, throwing him into the water and overturning the canoe if possible.

All thrusts must be directed at the chest. Any thrust reaching below the waist or above the shoulder is considered a foul.

The game may be set for any number of points up to fifty. After each bout, until the desired score is reached, the canoes are paddled back to their original positions and again, at the signal, glide swiftly together. Every time a man is successful in dislodging his opponent he makes ten points, while every foul causes him to lose five.

WATER BASEBALL

Save for the fact that the pitcher and catcher must toss the ball, not throw it, this game is played precisely like field baseball. A good-sized water ball and a short heavy bat are needed.

A small float, about six feet square, allowing room for both catcher and batter to take their positions, will serve as the home plate. For the pitcher's box, a smaller float, of about two by six feet, will give room for both pitcher and umpire to stand. The field bases are made by using anything between two and three feet in diameter which will float — namely, a barrel-head or box end or few pieces of board nailed together. All of these should be sufficiently well anchored to hold them in place. If the game is played in water over the players' depths, the base and field men should be provided with logs to rest on.

In this sort of baseball, to put a man out, one may touch him with the ball, or touch the base before he can swim to it.

ELEVATED WRESTLING

Like most water sports this game is best enjoyed by those who are at home in the water. As in "elevated boxing," described earlier, any number of pairs may play on a side — the sides competing — or simply two pairs may compete. The boys matched against each other both as "elevators" and "wrestlers" must be, so far as possible, of equal height and weight.

Seated upon the shoulders of the "elevators," who hold them firmly by the legs, the wrestlers are carried out into the water to the depth of the "elevators'" shoulders. At the signal to go, each wrestler tries to dislodge his opponent from his position, tossing him and his "elevator," if possible, into the water.

In doing his part to keep the wrestler in good position, the "elevator" may be compelled to undergo many a ducking. An abundance of pluck and endurance will serve him in excellent stead here.

BOY SCOUTS MAKING A CAMP BED

STILL MORE PRACTICAL ACTIVITIES

So much emphasis is being placed these days upon the necessity among boys for manual and occupation training, that young fellows who have their wits about them should be on the outlook for every opportunity for practical education, and for every chance of applying that education. Twenty or thirty years ago boys grew up under conditions different from those existing now. Then, father and son worked together, and what the father knew the son gradually acquired. Hence, when the time came for him to earn his own livelihood and become a producer on his own account, he was prepared without deliberate intention on his own part. All through his boyhood he had little realized the value of the play, the small chores, and serious work which provided an education, — practical in every phase and handed down from labored experience. To-day, however, if a fellow is stirred by any ambition to "make good" in this enterprise or that, he must deliberately and persistently apply himself. There is a lot of odd knowledge needed to supplement definite training, knowledge such as the boy of years ago came by naturally. It is this knowledge that helps to broaden one's outlook on life and makes a man's existence more worth while both to himself and those about him. Some of the following suggestions

may help one's education in a practical way. They will prove most valuable as indicating how one must grow by actual application of himself.

CLEARING

Most every fellow enjoys swinging an ax and seeing a tree fall as the result of his blows. Disregard for the moment the muscle and exertion required — those are but minor attendants. The important thing needed is the will to do. Taking that with you, go to some well-disposed man who needs his land cleared and volunteer your services. If he hesitates because of your youth and inexperience, produce some trusted helper who understands the work, and together give proof of your ability.

Perhaps you know of some state reserve land in need of clearing. By applying to the officer in charge you and your companions under proper supervision may be allowed the privilege of working upon this. Do well all that you undertake, so that the clearing and cleaning will be complete.

PATH-MAKING

When our pioneer fathers blazed trails through heavily wooded forests so that they might more easily return over the same route, they little realized how soon the paths blazed would become highways for transportation. Whatever need for new paths exists to-day arises largely from the desire of pleasure seekers for more convenient or more attractive routes. Such a task as laying out a new path is mighty interesting to a group of active, clear-headed fellows. For scouts in search of some practical good turn it may offer peculiar inducements.

To undertake this, the first step is to secure permission to make the desired trail or path. Ask the landowner, if the property is private, or go to the state authorities if the section is in a public reserve. When permission has been granted, proceed to learn all you can about the district through which the path is to run. If the path is to be a short cut, study to make it direct; if merely for pleasure, see that any attractive landmarks or outlooks or historic spots in the neighborhood are included and indicated by neat, conspicuous signs. Now, having determined the general route, clear away all underbrush, large rocks, and other impediments. Post signs of direction where necessary for the sake of clearness. If there is a spring near the path, point that out.

PATH-FINDING CONTEST

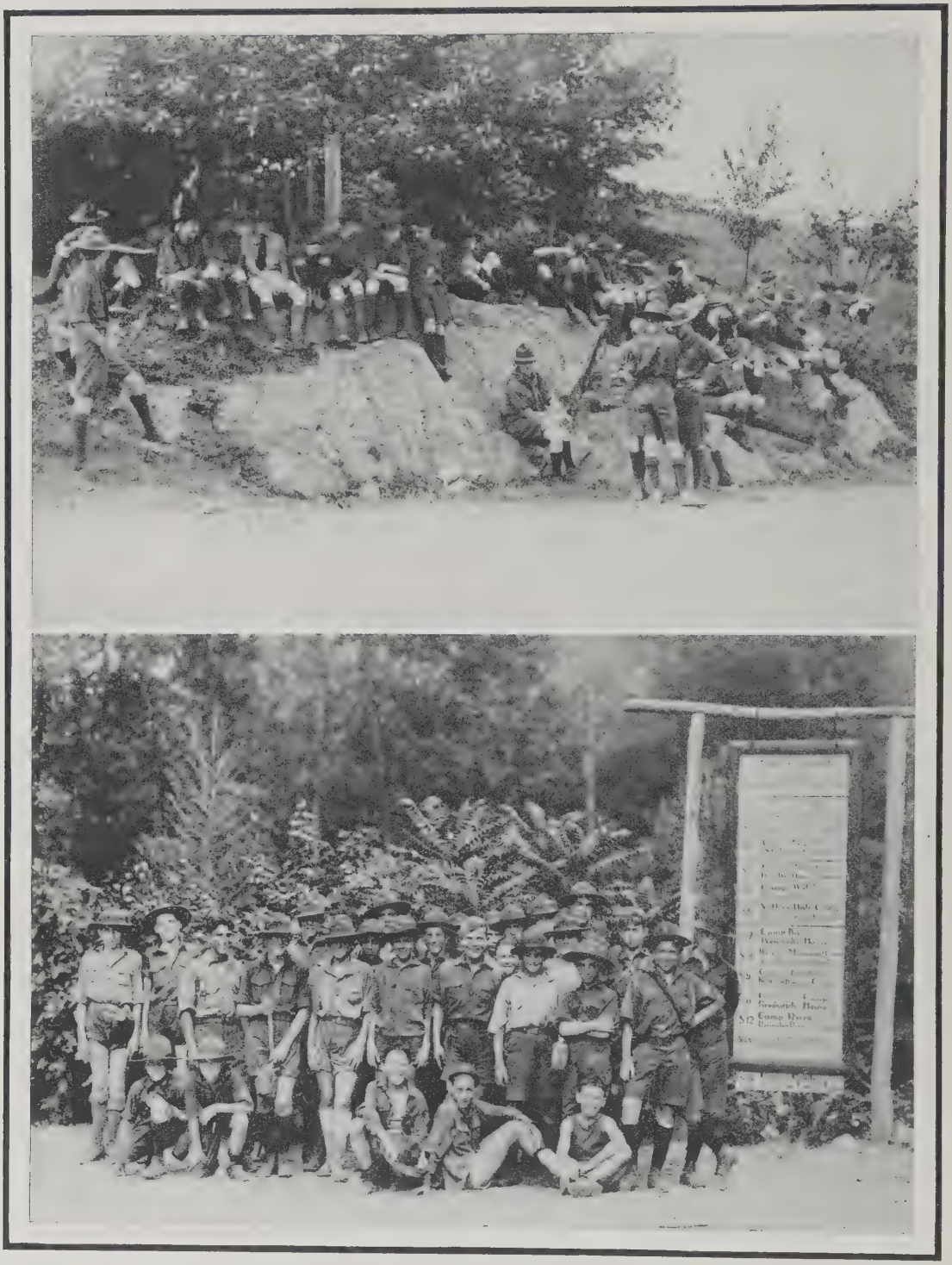
The ability to read a map properly — to be able to find one's way by picking out the landmarks and peculiarities of the route — is a valuable asset to one who does much tramping and is required to rely on himself. This kind of work may be made doubly interesting by holding path-finding contests, the object being to see which of several groups of boys can pick out the shortest route to a given point and can cover it in the quickest time. For this work, maps issued by the United States Geological Survey are the most accurate and require very careful reading, as the names for streets and roads are not given.

The person interested in conducting the contest chooses some conspicuous object, such as a high hill, for the finish of the race. All the groups have different starting-points, which are all equally distant (as the crow flies), say four or five miles, from the finish. If possible it should be arranged so that no two parties need cover the same ground. Each party is then sent to its starting-point, equipped with map, compass, and watch, and at a time previously agreed upon sets out. The only rule is that no one is allowed to ask questions of anybody along the way. Any such questions asked must be reported to the Scout Master or person in charge of the contest, who will count points off the score for that group.

MAP-MAKING

To be able to read a map intelligently is one thing; to actually set about constructing one is entirely another. Map-making affords one of the most profitable pastimes found among the field sports used in Scouting, and can be made fascinating when a number of boys undertake it together.

Here is a method of making a rough map that is worth trying. Taking pencil and paper,



OFF FOR A TRAMP

a large flat board on which to fasten the paper with pins or thumb-tacks, a long flat ruler graduated in inches, etc., a couple of staves, and a compass, set out for the ground desired in such a way that the greatest length of the board is in the same direction as the greatest length of the ground to be mapped. (A camp stool or tripod is good to place the board on,

A SCOUT DOING TRAFFIC DUTY

to be mapped. Having arrived, select the largest stretch of flat, or nearly flat, land you can find for a base line, and erect a staff at one end. Proceed to the other end of the flat place and set up your board as level as possible, but if these are not available lay the board flat on the ground.)

Upon your board, select a point — we'll call it x — to represent the end of the base-line you are standing upon, and stick a pin

there. Next consult your compass and draw in one corner of your paper the magnetic North, that is, a line with an arrow pointing N., so you may be able to set the board in the same position when you remove it to some other spot.

Place your ruler on the board and rest the edge of it against the pin at the point *x*. Then, sighting across the stretch of ground, adjust it till it is in line with the staff you have erected at the other end of your base-line. Run a line along the edge of the ruler from this point *x* in the direction of the staff. This is the base-line.

Now look about you, and choose several conspicuous objects: trees, chimneys, church steeples, hilltops, etc., which are quite distinct but not too far away. Using the ruler as before, bring it to bear upon these objects, one after the other, ruling very faint lines from the point *x* in their directions. Having done this, take your board up and erect the second staff at the spot which was covered by the board. Walk to the other end of the base-line, being careful to pace a yard at each stride. Walk back over this and return to check your result.

Fix up the board at the other end of the base-line, removing the staff. For convenience in describing call this point *y*. *xy* then is the base-line.

On your paper measure off the distance *xy*, which you have paced out, according to some convenient scale. Suppose for example your base-line is 450 yards long; a convenient scale would be to let one inch equal fifty yards, so that the base line *xy* on your map would be nine inches in length. This will also be the scale of the finished map.

At point *y* fix a pin on your paper, and lay your ruler along the line *xy*. Then turn the board horizontally until the ruler comes into line with the staff you have set up at the point from which you took your first observations — at the other end of the base-line.

If properly done, you will find that the magnetic North laid down on the paper corresponds with that of the compass; in other words that the north line on the board points in the same direction as it did before.

With your ruler pivoted against the pin at *y*, take sights upon each of the prominent objects which you selected in the first case, and draw lines from point *y* which will cross the lines drawn from point *x*. The points where these lines cross will fix the positions of these objects on your map and should now be distinctly marked and named.

Care should be taken not to select objects so far away from the base-line that the points where the lines drawn from *x* and *y* cross will fall outside your paper. They will fall inside, however, if they are not much farther away from either end than the length of the base-line.

If a more extensive map is required, the scale of the base-line *xy* should be made smaller — say let one inch equal one hundred yards, so that more distant objects may be inserted.

HAMMOCK-MAKING

Perhaps the hammock made will not prove the dowiest sort of couch imaginable, yet that it may be of use will be evident.

Used as a game, with two or more groups of boys of any convenient working number taking part, it offers plenty of fun and good wholesome competition, at the same time emphasizing the importance of careful workmanship and unselfish coöperation.

Let leaders be named for each group, and sides be chosen. As head carpenter, the leader will allot the tasks, planning the work so that all the boys may be employed in carrying it on from one stage to the next.

Each group is supplied with a barrel, a brace and bit, a claw-hammer, a hatchet, and about twenty feet of quarter-inch rope. The idea of the game is to see which group can tear the barrel apart, stave by stave, remove all nails and dirt, and then, boring two holes in each stave, one inch apart and one inch in from the end, weave the rope through the holes, thus fastening all the staves together, and leaving about six feet of rope at each end for swinging length.

With the tasks allotted so that a certain boy or number of boys tear off the staves and pass them on to another boy to remove the nails, who in turn give them to others to bore the holes and thread the rope (these boys may be the same ones who have finished the work of

tearing the barrels apart and are ready for another task), an excellent object lesson is given in division of labor and necessity for co-operation, with all the spice of competition thrown in.

If you are hiking in the woods where no barrels are available, but where hickory, beech, or birch brush is plentiful, use this instead. Here further division of labor is possible, as boughs of one-half inch to one and one-half inch in thickness must be found, chopped from the trees, all made even in length, and then knotted together with the rope by means of a double half hitch.

CLEANING VACANT LOTS — A FINE PIECE OF COMMUNITY IMPROVEMENT

Vacant lot cleaning may not impress one at the outset as being an attractive undertaking, yet to a bunch of active fellows ready for a good job it offers plenty of fun mingled with the satisfaction of really improving the appearance of a certain neighborhood.

After selecting the desired lot, inquire for the owner and from him receive permission to undertake the work. Next go to the nearest fire-engine house and there ask for a fire permit. Here they will give you all the information necessary in regard to obtaining this, telling you, no doubt, that you must send some older person, who will hold himself personally responsible for seeing that the fire regulations are complied with, to the district fire chief. The man who obtains the permit — Scout Master or club leader — as the case may be, ought to superintend the work, allotting the tasks that each boy may work freely without interference from his neighbor. Let some spot in the center be chosen for the dump-heap. Then, working from this out, pick up all the rubbish lying about and pile in a heap. After this has been done, beginning at the outside and working toward the dump-heap, rake the lot.

"A GOOD TURN": BOY SCOUTS CLEANING UP A DESOLATE CITY LOT

As soon as a small pile has been made the fire may be started to burn it. Be sure in setting the fire to conform strictly to the conditions set down in the property and fire permits. Don't, on any condition, quit the job till you have done it as thoroughly as you know how.

TREE CENSUS TAKING

Tree census taking has been found by scouts and others interested in the identification and study of trees to be one of the most fascinating and instructive of contests. It comprises the collecting of accurate statistics in regard to the kind, location, and condition of all trees on public highways in a particular territory chosen for study. The contestants should divide themselves into groups of eight or eleven, and each group elect a leader and a recording secretary. The leader's duty is to direct and supervise the work of his group. The recording secretary is to see that the rules are complied with, the territory covered, and that all individual records are properly tabulated, summarized, and filed. The rest of the group should work in gangs of three, two to take measurements and one to take notes. Each boy's report should contain at least one hundred trees — that means that the three working together would take the measurements of at least three hundred trees. The three should alternate the work of measuring and taking notes.

All records should be kept on a chart or field card prepared for use beforehand and furnished to each contestant. If a map of the town or section assigned is available, the group might locate the trees on the streets with the distance between them, and their numbers as found on the field cards.

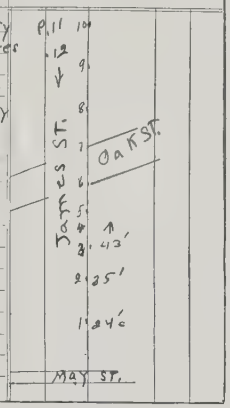
Distances to the nearest foot should be taken from the center of one tree to the center of the other, and the diameters, to the nearest inch, at breast height for each tree. If a caliper, used for that purpose, can be obtained, it will be found very convenient. If this is not available, simply measure the circumference with the tape and divide the number of inches by three for the approximate diameter.

Locate the trees by moving up one side of the street and down on the other, always taking the right-hand side in the direction you are proceeding. Locate the first tree after crossing a street by measuring from the property line or the curb of the cross street — being careful to make a note as to which is used. It is best to use the curb where one exists.

Card No. 1 Town Groton Street James Date Aug. 20 1913

Tree No.	SPECIES	Diam.	Condition Top	Condition Trunk	GUARD	REMARKS
1	Sugar Maple	16"	G	B	Wire	Large cavity
2	" "	20	G	F	None	Electric Wires
3	Red Oak	32	G	G	"	Moths
4	Norway Maple	27	B	G	"	Dead limbs
5	Sugar Maple	29	F	F	"	Small cavity

STREET SKETCH



TREE CENSUS CHART: MODEL CHART FOR TABULATING RECORDS

The conditions of the trunks and tops of the trees should be marked as follows:

G — for good — if there are no wounds or borers.

F — for fair — if wounds are slight.

B — for bad — if wounds are large.

We give here a sample of a field card. In the street sketch on the card, a dot will represent a tree, the number will be placed opposite the tree in the street, and the distances between them will be placed on the opposite side of the line of trees as shown in the sketch. Have the numbers continue from one card to the next on the same street. The trees are numbered consecutively on each street.

In undertaking this work, a time limit of not more than two months should be set for the contest. It is well to set a definite date on which all reports must be turned in.

Competent judges should be chosen to inspect the reports. Their decisions will take into consideration the following: accuracy of the information given, special information secured, punctuality, neatness, beside the special difficulties certain districts may have presented.

The group as a whole presenting the best census of the section studied will be the winner in the contest.

BIRD STALKING

It is a well-known fact among students of bird life that birds in their migration frequently return to their old familiar haunts. These may be nesting places, feeding places, or other places where they are certain of finding shelter and protection. By making use of this fact and keeping a close watch for such haunts, an observant youth interested in the study of birds may be able to detect their individual habits and peculiarities.

A chart, similar to the one presented here, may prove of much value in keeping the information tabulated for reference.

One undertaking for the first time the identification of birds will do well to note and write down the following items: Size, color at breast, wings, head, tail; shape of head, bill, wings, tail; song, flight. With this detailed description, so easy for reference, one may readily identify one's bird with the aid of any good bird book. You will find Volume III interesting at this point.

MIGRATION BIRDS

CARD NO. _____ KIND _____ PLACE _____

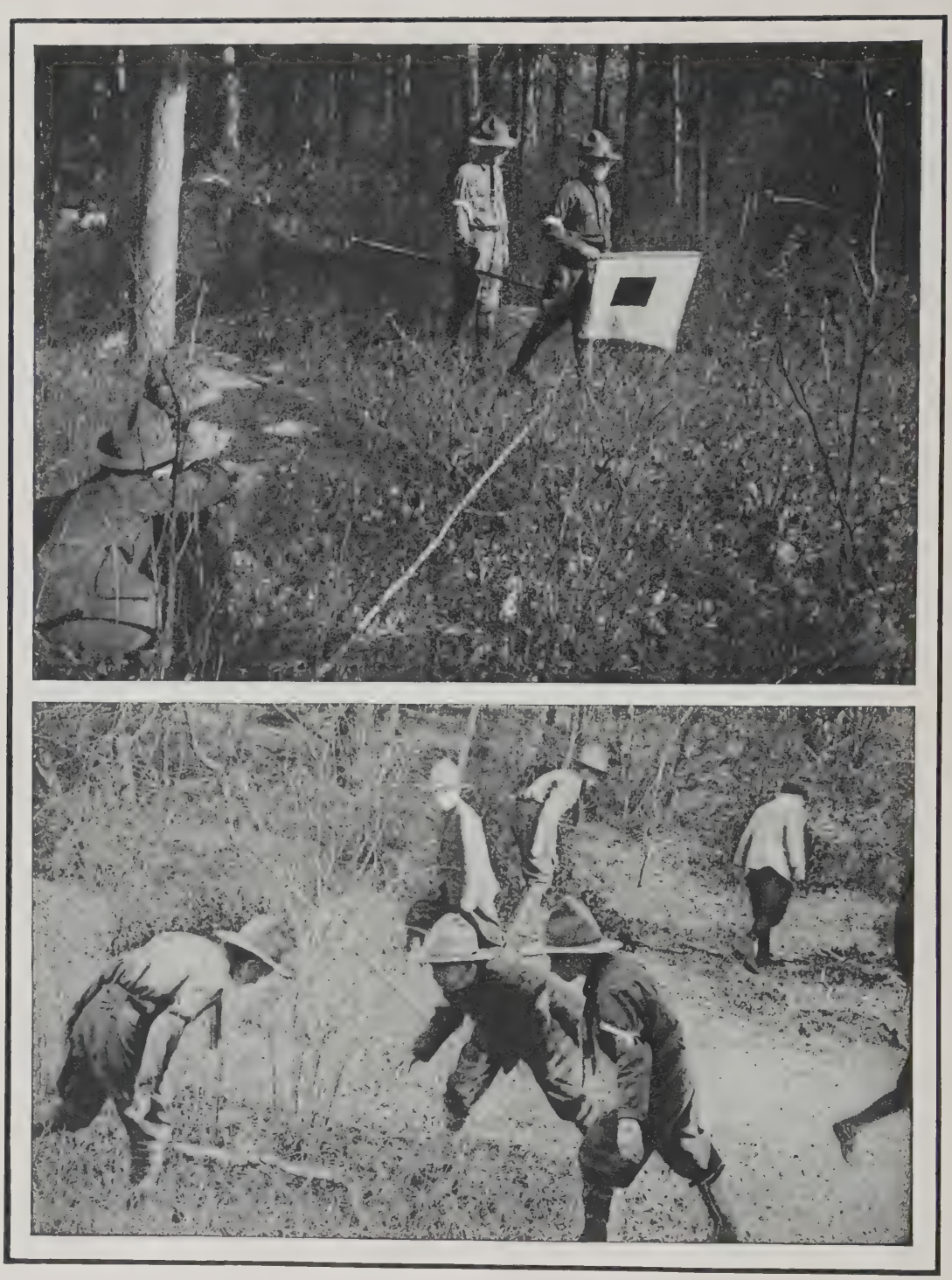
Date of Arrival	Weather	Temperature	Wind	Special Conditions
Date of Departure				

Date	Food		Remarks
	Kinds	Amounts	

FOR REMARKABLE PICTURES OF BIRD MIGRATION SEE VOLUME III

Length of Stay	Favorite Food	Average Amount Consumed Daily	No. of Eggs Laid	Time required for Eggs to Hatch	Time required for Young to Mature	Number Matured	Habit of Parent Bird[1]

[1] This lower diagram should be made and filled out on the back of the card.



BOY SCOUTS SIGNALING AND TRAILING

In the lower picture the scouts are hunting for the hidden note of directions.

OVERNIGHT HIKING

For an overnight hike choose a night, dark but not stormy, a destination, sufficiently unfamiliar to require diligent scouting before it can be rediscovered, and a distance, not greater than ten miles away. Any group of eight or more, headed by a competent adult leader, may participate. Equipped with all the necessary supplies, including staves, food, blankets, cooking utensils, and the like, let the party start off in groups of two, the smaller pairs being placed in the lead to set the pace. At a signal from the leader, each pair joins hands and taking their staves in their outside hands passes them back to the pair behind. All down the line each pair passes back its staves in this way, so that the whole line is locked together by means of them. In this manner the party, singing or otherwise entertaining themselves, march until they reach their camp-site.

On arriving, each group of twos sets about making its shelter and bed. If the location is high and dry — and only this sort of a camping place should be chosen — the beds ought to be made on the ground, by spreading leaves or grass, previously located but not gathered, with the blankets over them.

Beginning here, the hike may be made a most satisfactory sort of contest by adopting a point system of five, three, and two for first, second, and third places as won by the groups of two in the performance of certain tasks. For example, in the making of the beds, the pair making the best bed in the shortest time would score five points, the one making the next best, three, and so on.

As one group finishes its work let it assist those who seem most behind, so that it may be possible for all to bunk at an early hour. When everyone is ready to turn in and the retiring ceremonies have been finished, taps should be sounded and perfect quiet kept throughout the night. (If desired, a picket guard of two boys per hour might be kept just for the fun of knowing what such an experience is.) Any disturbers of the peace after taps shall not only be punished in such a way as the campers shall desire, but shall be fined as many points as the severity of the disturbance seems to warrant.

When reveille is sounded, all must be up and out promptly, and under the leader's direction prepare the breakfast which their menu calls for. Division of labor will simplify and facilitate its preparation. Let a certain number gather the wood and build the fire, others fetch the water, and still others be appointed to cook the breakfast. The boys should continue to work in the original pairs and should be awarded points according to their deserts.

After breakfast, camp should be broken and everything be left in such condition that even the most adversely critical could have no grounds for complaint. The trip should be made on schedule time, both going and returning, and throughout none of the boys should be allowed to get ahead or stay behind.

The pair receiving the highest number of points should be given the privilege of going on the next hike as the party's guests, free from expense or special duties.

SIGNALING CORPS

Signaling by flags cannot be made interesting unless there are two or more fellows able to use the same code. For the reason that it generally proves best to have at least two at each end, the boy to dictate the message to the sender, and the one to write down the message interpreted by the receiver, signaling becomes necessarily a group sport, and as such requires group practicing.

To set about learning to signal, form a group of about six or eight (the number should not surpass this), and, having found some boy who has become an expert at it, ask him to become your leader. He will not be so hard to find as may at first seem apparent, for by application to any group of Scouts nearby, or to any army, navy, or local militia signaling corps, you can doubtless come upon someone both efficient and ready to help.

You will learn that there are four different standard codes: Semaphore, Myer, Morse, and Continental. Proceed to master one, naturally that code which your leader is most expert in. After having become proficient in this, it will be easy to go on and learn the others. To fix the code in mind, frequent practice is essential. As progress is made in sending and

LEADERS SIGNALING BACK THE HIKERS' CLUB

receiving messages, this practicing should be made more interesting and varied by changing the signaling points, using hilltops, tops of houses, and signaling towers.

When every member of the group is thoroughly familiar with all the codes, and has mastered one, challenge any similar body to competition. The codes are given on page 72.

Signaling corps often find it attractive to send messages by means of telegraph, wireless telegraph, or heliograph instruments. (This can be done with all but the Semaphore code.) In most cases the members of the corps themselves have constructed their own instruments.

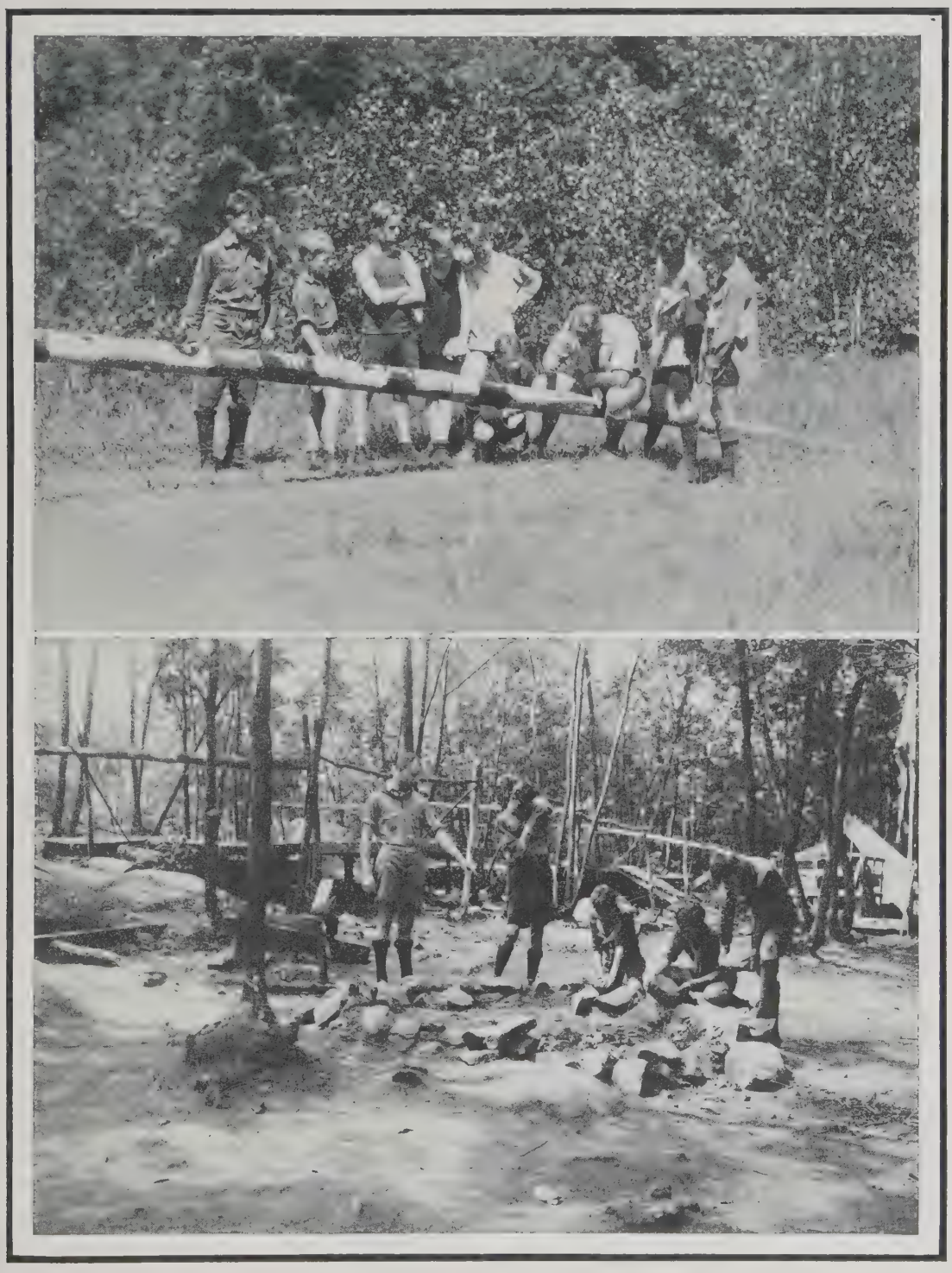
HOSPITAL CORPS

To many the study of first aid in itself is attractive. When, however, occasions arise requiring its practical use, knowledge of it becomes a resource of inestimable value. It is to meet emergencies in which others are injured and to offer them immediate help, making the most of materials at hand, that a hospital corps organizes and fits itself.

Such a body should have about ten or fifteen members under the active leadership of a doctor or some other competent instructor. A little at a time they should collect the following equipment. A first-aid kit containing ointments, stimulants, bandages of assorted sizes, disinfectant and absorbent cotton, tape, gauze, court-plaster, scissors, safety and common pins, needles, thread, cord, etc.; one or two authoritative books on First Aid; poles and canvas for litters; strips of wood for splints, and such special supplies as would be needed in camp for sunburn, ivy poisoning, etc.

The instruction will begin with very simple cases, and throughout each member will learn by actually doing. The different members of the corps will take turns as "victims" for the others to practice on. Instruction and practice should continue till all the members are proficient in every branch of first aid, including treatments for shocks, fractures, flesh wounds, suffocation, and poisonings of various kinds.

Those taking up the study of first aid seriously will find that when an accident occurs, even though they may not always have the desired equipment at hand, they will be able to offer



A SCOUT TOTEM POLE; BUILDING A FIREPLACE

valuable assistance which may oftentimes help toward saving a life. Every member of the corps should be ready to put into use at all times the training he has received.

CAMERA CLUB

Organizing or being a member of a Camera Club need not require an expensive outlay or equipment, as you will learn when you read the fine article on Photography on page 304 of this volume. Clever, industrious fellows, moreover, who take pains to become proficient in the art of developing and printing, may not only clear the cost of supplies, but gather in a neat profit. By means of a club it may be possible to minimize the expense of materials, buying them in large quantities at wholesale.

To make the club thoroughly valuable, the members should organize, elect officers, and conduct their meetings in business form. Get permission to use and fit up as a clubroom some attic, shed, barn, or the like. Here keep all supplies used in common, and fit up one section, at least, as a workroom. Appoint some member to look after the supply closet and keep it well stocked. To insure having this general supply, well regulated accounts must be kept and the expense divided among the boys. See to it that all up-to-date, inexpensive literature bearing on the subject is provided.

To make their pictures graphic and detailed should be the chief interest of all. Each member should study to get good backgrounds, to secure the effects of different lights and shadows, to obtain cloud effects. He should learn to develop and print plates and films, make enlargements, and otherwise master the art of photography. The club will lose much of its value unless it is a mutual benefit association where each helps the other and is ready to profit by his companion's criticism. For possible results, see the section on Photography.

NATURALIST CLUB

In organizing a Naturalist Club, the most important thing is to secure the help of an enthusiastic naturalist. If you do not know of such a person whom you can call upon, you may, on application to your state ornithologist, or to the secretary of some natural history society with which you are acquainted, be able to learn of one who will be glad to offer you his services. Choose him as your Honorary President, or give him some other office in keeping with his position and ability. Such other officers may be created as the members of the club deem necessary.

It should be the purpose of the club to study and make collections of animal life, including insects, butterflies, birds, etc., and plant life, and to gather geological specimens, as peculiarly marked or stratified rocks, fossils, conglomerates, etc.

When the club members make their studies afield, the secretary or such officer should be required to keep records describing their travels, important discoveries, etc. Let some member be put in charge of the specimens collected, and as regular custodian arrange and tabulate them carefully.

When a sufficiently large collection has been made, the club may find much pleasure in donating its treasures to some city, town, or semi-public museum.

HIKERS' CLUB

A Hikers' Club should be made more than a club of walkers. It must be actuated by a desire to learn by observation or to accomplish some worth-while feat. To make and supervise plans for interesting and instructive excursions, the club would do best to have a well-furnished organization with competent officers in charge to regulate committees, with a constitution drawn up, and a clearly outlined schedule of activity prepared.

The program should be made as varied as possible, including, for example, a tramp over a mountain with the night spent there, a visit to some old Indian stamping-ground or to places of historical interest, or inspection of some factory or mill (provided permission can be obtained for this).

It is well for the club to have the active interest of some older person or persons, otherwise there will be much they cannot undertake,

as the overnight tramps and the factory inspection visits.

The members may find especial pleasure and profit in collecting specimens for museums — such as cocoons, hornets' nests, geological and botanical specimens, Indian relics, oddities, rarities, or curios of all sorts. They may also be of assistance to the state or town foresters, fire wardens, and the like, in giving information about pest-infected forests, waste undergrowths, or any other conditions detrimental to the public good.

BOY SCOUTS AT A PRACTICAL "GOOD TURN"

TWO CAPITAL SUGGESTIONS — A BICYCLE CLUB AND A GENIUS CLUB

Bring together ten or twelve fellows of about an age, who enjoy cycling, and form a club. Have some adult ready to accompany when the club desires to go off on long trips. A president should be elected to serve as leader and business manager. As leader, he must help in planning the routes of the party; as business manager, he must secure camping privileges, hotel accommodations, and make other arrangements for the comfort of all. He would do well to appoint a committee to plan and make ready for each hike. They should draw up rules, make out lists of necessary equipment, prepare camp menus if they are to be needed.

If the members of the club make use of photography and are fond of nature study they can make the trips of more lasting value and interest.

The second suggestion is original indeed. Fix a limit for the number of members in this club somewhere between ten and twenty. Each member must be a producer, and holds his membership by virtue of this fact. At regular intervals, each one must bring forth something original and, at the same time, worth while. This may be almost anything, from a suggestion for changes in their meetings to an acrobatic performance. The club will vote

Photographs from F. D. Elmer

BOY SCOUTS ON THEIR FIELD OUTINGS

In the cornfield; waiting for the snapshots; brimful of life.

upon the thing offered to decide upon the value of it.

Occasionally the club as a unit may study and produce some play in public. They may work too over some play and from it work out something which will give an opportunity for expressing their originality.

GOOD TURNS

Groups of Scouts have found a great deal of honest fun in doing "good turns" and doing them entirely without hope of reward. To receive a "tip," or offer of payment, is an insult which robs the activity of half its pleasure.

Sometimes the work is near home, in back alleys or vacant lots. Again it may be participation in some civic enterprise. Often it is farther away, in groves where gypsy and brown-tail moths need to be destroyed, in meadows where broken-down stone walls make the fields unsightly, or along country brooks which they are able to make passable by some cleverly constructed foot-bridge. That they enjoy all this is evidenced by the avidity with which they work. That any group of wide-awake fellows may do the same is clearly obvious. No expensive equipment, no experience is needed, only cheerful willingness to do some practical good without hope of selfish reward.

HELPING ON PARADE DAYS, PAGEANTS, ETC.

Any enterprising group of fellows can make themselves very useful at pageants or public celebrations provided they are capable of acting under orders and interested enough to familiarize themselves with details. Previous organization is of course desirable but not necessary. After you have decided to help, send your group leader as a delegate to report to someone in charge and offer your services. He can then find out where you may do the most good. Then under the leaders or supervisors each one should endeavor to become familiar with the general program (so that he may be able to give general information about it) and especially with the part with which he will be most concerned.

If messenger service is to be one's task, he should know well the line of march, the organizations participating, the prominent men in charge, time schedules, and the like, so that detailed explanations will not be necessary when orders are being received or delivered. If one is to fill some place in the parade or take some part in the exercises he should be careful to know just what is expected of him, where and when to report for duty, etc. On the day of the celebration let each member of the group, properly equipped, report *on time* for duty.

A parade, or celebration of any kind, for that matter, means far more to a fellow who is right in the thick of it. As an active participant instead of an idle, even perhaps enthusiastic observer, he learns much that is interesting about the management of such undertakings and at the same time has the practical experience and true enjoyment that come from really doing something.

THE SCOUTS AND THE SEASONS

[The following article was written by Rev. Franklin D. Elmer, a Scout Commissioner, who has had great success in organizing and directing local troops in Winsted, Conn., and Poughkeepsie, N. Y., and writes from experience. The troops are equally successful, whether located in villages, small cities, or large cities. Mr. Loomis has had experience in the large cities, Mr. Elmer in the small. Both are enthusiasts, and indeed enthusiasm seems to be engendered in all who become connected with the Scout Movement, leaders and boys alike.]

THE great outstanding fact about the Boy Scouts of America is that the principles and practices of this organization have gripped the boy. Baden-Powell, the chief founder of the order, says, "Once a Scout always a Scout." The five hundred and fifty thousand Scouts of this country emphasize this motto.

Impelled by his ambition to "get in," a boy hurries to his twelfth birthday, when he may join the troop as a Tenderfoot; impelled by his desire to "stay in," he goes on advancing in scouting, up perhaps to Eagle ranks, the

topnotch grade; at eighteen he is eligible to become an assistant scout master. Six important years in the life of any boy, for the Scout they are brimful of stimulating adventure, joyous comradeship in the open, abounding vision and vitality, not unmixed with long, serious hours of introspection and inward preparation for a man's job in the waiting world.

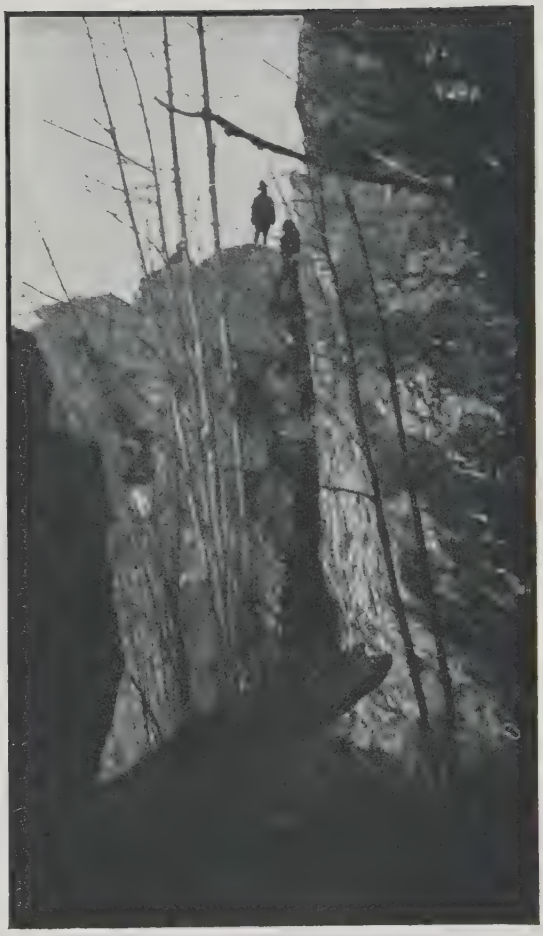
If we ask, What is it that so attracts and holds the normal American lad to scouting? the answer is, first, it appeals to his highest instincts, and, second, it provides something for his hand, brain, and heart all the time. The principles of the Scouts are fundamental, their laws constitutional, their exercises as natural as is teasing frolic to the shepherd dog or a scamper after nuts to the squirrel. The Creator intended earth, air, wood, and water for benefit to his children. Scouting teaches the boy how to accept and enjoy this rich heritage. The marvel of youth is satisfied in the unfolding miracles of land and sky, forest and watercourse. Full lungs, busy hands, keen eyes, and a clean heart tend to development of deep-chested, breeze-blown life in body, mind, and soul. These treasures are the boy's own in scouting. The seasons form and reform to his delight. The year itself proves all too short for his varied enterprise. Whether in city, town, or remote country every day opens upon opportunity, every night brings a dream of prophecy. His way is lighted by men of yesterday; men of to-day he knows and measures; men of to-morrow he will win.

BOY SCOUTS REPAIRING A STONE WALL

WHEN ORGANIZE? NOW!

The question is often heard, What is the best season of the year to form a Troop? The day that you are ready is none too soon. There is no particular time, for all times are equally good. Scouting is primarily a movement to an intelligent appreciation and habitation of the out-of-doors as a background for a philosophy grounded in ideals of health, clean thinking, right living, universal peace, and

brotherhood. Long, lazy days of late spring whisper wondrous wooings, but so do the early days of summer, yellow afternoons of the harvest, the crisp call of October mornings, snapping winds of winter, the first songsters of the month of March. While the design is to take boys to the conquest of their normal environment, field and mountain, lake and stream, there is plenty of suggestion for indoor study, planning, making and doing for otherwise unoccupied moments at home or in assembly at barracks. Scouts are scholars of the out-of-bounds. They are pioneers of the unprovided periods. School over, home chores done, the Scout needs not to whine, What shall I do now? To one there is a signal flag and the chum next door; to another the mystery of the wireless; another must practice making fire with the rubbing stick; first-aid training calls to a fourth; camp cookery, with experiments in the back yard, appeals to yet another. A bow and arrow are to be made, there is a knapsack or canteen needing repair, the Scout magazine and many fascinating books are at hand to read. Even the Sunday School lessons are luminous with new interest because the history of the first great scouts are herein recorded. Some of my boys have very successfully dramatized the Apostle Paul, and in a Service of Worship presented the story of his life in Scripture words. Over and above all the other manifold opportunities and duties of the Scout, the daily good turn must be undertaken. Troop meetings offer general rendezvous regularly, and the Saturday hike in snow or blow, sun or rain, concludes a week of manly growth.



SCOUTS ON A MOUNTAIN CLIMB

STARTING IN THE FALL

One Troop with which I was related organized in the fall. After a few preliminary and initial exercises, the district round about was studied from government survey charts, and weekly dashes and sorties were made from the center along every compass direction, until the entire Troop became familiar with their section of the state. Usually there was a given goal: "To-day we will find the Robbers' Cave." "This week let us follow the dim pathways of Washington's men." "We will discover the territory north on this trip and locate a favorable spot for a Winter Camp." "Next Saturday we climb Prospect, a long day, and it may prove difficult work; be prepared!" These were the Scout Master's orders from week to week. Between times there was equipment to select and order, maps to be consulted toward the choice of a summer camp, grades to be worked up and passed, a Christmas playlet to prepare for the annual Christmas festivities of the Church, and daily the good turn. It is impossible for the meetings of a Scout and his Scout Master to be formally begun and ended within fixed and appointed limits. The boy keeps growing seven days a week and his Scout relationships help him all the time.

Scouting finely interprets the seemingly trivial and ordinary experiences in the lad's life.

The errand on which he is sent means more than merely going somewhere to deliver message or bundle. He is a pathfinder, working for civic decoration or merit badge. As he goes on his way he notes the location of fire-alarm boxes,

SCOUTS GIVING AN INDIAN PLAY

police calls, the names of streets, short cuts, public buildings. He gives the Scout salute to officials and teachers, keeps a sharp eye at dangerous corners for possible emergencies, lifts the burden of the aged woman to the street car, brushes the dirt from the soiled dress of a little crying child. He is by right of his knowledge and principles a member of every agency looking to good order, service, and hospitality in his community. He is guide to the stranger, helper to the unfortunate.

A SPRING START

Another of my Troops was begun in the spring. It was the season of the first migrations of bird life. On our field and woodland rambles "points" were given for sight and identification of the welcome visitors from the Southland. It was also the time of first flowers. We returned from our hikes with many choice blossoms, sometimes loaded down with willow branches or sprays of the dogwood to be used as decorations in the Sunday services. It is the custom of men nearly everywhere to remove their hats on entering a place of worship. Scouts link God's creation to man's building, and frequently worship their Creator, who is the Creator of all things, on mountain summit, under majestic groves, by melodious brooks or waterfalls. The quality of reverence notably lacking in our hurried American life is taught through all the seasons as a rounded appreciation of God's universal gifts.

What boy does not like to fish? An added zest was given to May and June piscatorial excursions when an enumeration and description of the catch was called for at the following Scout meeting, and the young fishermen were encouraged to make their own rods and learn to mend and properly care for their tackle. Fire laws of the state may properly be posted in every Scout barracks. Especially is this true during the dry periods of the year, when the snows of winter have melted from the forest beds of needles and leaves, or before the white banks have come again on the late edge of autumn. In these seasons, the noonday or evening camp, about which the tired troopers gather for council, comfort, and food, must be chosen

SCOUTS GIVING AN ORIGINAL PLAY

with foresight. The dry bed of a stream, a sheltered ledge or cave, is selected, protecting circles of stone are thrown to leeward, perhaps branches are gathered for a temporary hut, rude benches of logs are set, and the meal is

prepared. A quarter of a pound of beef with bread and two potatoes constitutes the usual ration. This is varied by frankfurters, tinned soups, bouillon cubes, erbswurst, bacon, as the boy prefers, and his mother's larder supplies. A twist of dough baked on a peeled hardwood sapling, cocoa heated in a soldier's cup, the handful of cookies or sweets, raisins and nuts at the bottom of the knapsack, and cup after cup of sparkling spring water make the Scout's meal complete, appetizing, and satisfactory. Then comes that delectable half-hour of loafing about the campfire, cheered with songs and stories, sobered earnestly with serious reflections, until the bugler blows "Retreat," the fire is carefully extinguished, the march homeward begun.

THE SUMMER CAMP SEASON

Summer is the season of the overnight hike and the ten days' camp by lake or river. It would be impossible here to describe the advantages of this annual outing in the life of a developing boy. The experience is eagerly sought throughout the year, looked forward to with preparation for months ahead, remembered and told about for months afterward.

Through the year, whether outdoors or in, the Scout considers property rights of others and regards the laws of community or state as to trespass, and the observances of courtesy in the use of field or building. Wherever possible the Troop occupies barracks in the church or school with which it is connected, or in a nearby hall or convenient rooms procurable at mild expense. Landowners are treating the boys of this organization with much gracious consideration, rarely finding cause to regret their generosity. Several Troops in my acquaintance have secured the privilege of cabin construction on outlying forest lands, and have availed themselves enthusiastically of this means to woodcraft. The use of a knife and an ax is a Scout requirement. With aid of their officers, among whom, let us hope, there is a trained forester, they build cozy cabins, the chosen goal of many a tramp. On Friday afternoons, whenever the weather is suitable, groups of Scouts with a master, the work of the week accomplished in school and home, march away under packed kits to spend the night in woodland solitude, to "smell wood smoke at twilight," "hear the birch log burning," become "quick to read the noises of the night." Long after years will not efface the precious

THE CENTURION'S SON IN A SCOUT'S DRAMATIZATION OF THE LIFE OF PAUL

memories of these experiences nor dim the lessons of youthful comradeship and brotherly counsel.

The Scout is loyal to his home community, his parents, officers, and teachers. He becomes a helper in every form of community service suitable to his years. He is young citizen in his relations to the local needs and government, efficient worker under teacher and pastor for the good of school and church, chivalrous older brother and friend; as Knight of the Northern Star, he finds and leads the way.

Photographs from F. D. Elmer

DEMONSTRATING FIRST AID, AND BUILDING A FRIENDSHIP FIRE

Two boys are seen making a stretcher, another is keeping a hot fire and heating stones, still another is signaling for help, while two are working over the boy.

BOY SCOUTS OF AMERICA TOURING BATTLEFIELDS AS GUESTS OF FRENCH GOVERNMENT

THE BOY SCOUT MOVEMENT

ALL over the United States are men — one hundred and thirty thousand of them — who have undertaken to guide the development of American boys along certain definite lines. These volunteers, twenty-one years of age or over, are known as Scout Masters, and form the backbone of the Boy Scout movement. They have under their charge throughout the country over four hundred thousand boys. These boys are divided into groups, called Troops, each of which numbers from eight to thirty-two boys. The Troop is divided into what are known as patrols, of eight boys each. These patrols choose a name, such as the Bear Patrol, Eagle Patrol, and so on, and adopt for patrol sign the animal or bird whose name they bear, using it for a symbol on their flag. Each patrol, with its leader and assistant leader, is usually independent to the extent of holding its individual meetings and managing its own business. The Scout Master, however, keeps closely in touch with the boys, watching over them and maintaining close relations with all. He furnishes them with suggestions for programs of their meetings, and supervises all their activities. Every week the whole Troop is called together for a general meeting and training in Scout activities. The Scout Master has a wonderful task — that of obtaining expression of all the best in every boy, suppressing the undesirable by substituting in its place new desires and purposes, and at the same time opening up opportunities lying close at hand, but hitherto unobserved by the boy.

FINDING THEMSELVES

The Scouts, meanwhile, are having the best sort of time, and in a way unthought of by them before. The very self-imposed obligation of "doing a good turn daily" affords a new kind of pleasure. This doing something for others without hope of praise or personal reward gives a new form of enjoyment, while removing

any priggish tendency to pose as a "goody." It is a big definite step toward the making of helpful men and right-minded citizens.

THE BOY SCOUT PROGRAM

As for their activities, what do they not include? The Boy Scout program, taken as a whole, offers more to a boy than any other combination of sports. Greek, Roman, Anglo-Saxon, Indian, and Oriental games supplement such requirements as knot-tying, signaling, first aid, campcraft, woodcraft, elementary botany and astronomy, swimming, carpentry, and even money-saving. How can a boy resist them — the very things he has wanted to know about, if only it did n't take too much exertion! Competition in all these activities with his fellow Scouts removes all thought of effort on his part, and adds spice to what has now become a game. Here is the safe outlet for the surplus energy that makes a boy worth while. The Scout Master, having a live personal interest in the boy, furnishes him with things to do so much to his liking that he willingly does them, and at the same time imposes upon him obligations and duties that call for his best and stimulate the elements of true knighthood latent within him to activity and domination.

REQUIREMENTS FOR A TENDERFOOT

In order to become a Scout a boy must be twelve years old, and be able to pass a test on the following:

THE MOUNTAINEERS

From a snapshot of a party off on a tramp with their homes on their backs.

1. Know the Scout Laws, motto, sign, salute, and the significance of the badge.
2. Know the composition and history of the United States flag and the customary forms of respect due it.
3. Tie the following knots: square or reef, sheet-bend, bowline, fisherman's, sheepshank, slip, clove hitch, timber hitch, and two half-hitches.

SECOND CLASS SCOUT TESTS

When he has spent one month as a Tenderfoot, he is at liberty to advance to the grade of Second Class Scout, provided he passes the following tests:

1. Elementary first aid and bandaging; know the general directions for first aid for injuries; know treatment for fainting, shock, fractures, bruises, sprains, injuries in which the skin is broken, burns, and scalds; demonstrate how to carry injured and the use of the triangular and roller bandages and tourniquet.
2. Elementary signaling: Know the alphabet of the semaphore, or General Service (International Morse) code.
3. Track half a mile in twenty-five minutes; or, if in town, describe satisfactorily the contents of one store window out of four observed for one minute each.
4. Go a mile in twelve minutes at Scout's pace — about fifty steps running and fifty walking, alternately.
5. Use properly knife or hatchet.
6. Prove ability to build a fire in the open, using not more than two matches; care for and put it out.
7. Cook a quarter of a pound of meat and two potatoes, in the open, without the ordinary kitchen cooking utensils.
8. Earn and deposit at least one dollar in a public bank.
9. Know the sixteen principal points of the compass.

These Second Class requirements are expected to cultivate habits of observation, resourcefulness, thrift, and ability to adapt oneself to conditions. The practical information and skill gained will be valuable assets all through life. A boy intent upon mastering them has little time for idleness, so well employed are all his faculties.

FIRST CLASS SCOUT TESTS

Sixty days' service as a Second Class Scout is required before a boy can pass on to the highest rank, that of First Class Scout. For this rank he must pass still harder tests, which are intended to teach him his obligation as an

individual in the community so that he may be prepared to coöperate with others and render public service wherever it is needed. He must:

1. Swim fifty yards.

2. Earn and deposit at least two dollars in a public bank.

3. Send and receive a message by semaphore, including Conventional signs, thirty letters per minute, or by the General Service code, sixteen letters per minute, including Conventional signs.

4. Make a round trip alone (or with another Scout) to a point at least seven miles away, going on foot or rowing boat, and write a satisfactory account of the trip and things observed.

5. Advanced first aid: Know the methods for panic prevention; what to do in case of fire and ice, electric and gas accidents; how to help in case of runaway horse, mad dog, or snake bite; treatment for dislocations, unconsciousness, poisoning, fainting, apoplexy, sunstroke, heat exhaustion, and freezing; know treatment for sunburn, ivy poisoning, bites and stings, nosebleed, earache, toothache, inflammation or grit in eye, cramp or stomach-ache and chills; demonstrate artificial respiration.

6. Prepare and cook satisfactorily, in the open, without regular kitchen utensils, two of the following articles as may be directed: Eggs, bacon, hunter's stew, fish, fowl, game, pancakes, hoecake, biscuit, hardtack or a "twist," baked on a stick; explain to another boy the methods followed.

7. Read a map correctly, and draw, from field notes made on the spot, an intelligible rough sketch map, indicating by their proper marks important buildings, roads, trolley lines, main landmarks, principal elevations, etc. Point out a compass direction without the help of the compass.

8. Use properly an ax for felling or trimming light timber; or produce an article of carpentry or cabinet-making or metal work made by himself. Explain the method followed.

9. Judge distance, size, number, height, and weight within twenty-five per cent.

10. Describe fully, from observation, ten species of trees or plants — including poison ivy — by their bark, leaves, flowers, fruit, or scent; or six species of wild birds by their plumage, notes, tracks, or habits; or six species of native wild animals by their form, color, call, tracks, or habits; find the North Star, and name and describe at least three constellations of stars.

11. Furnish satisfactory evidence that he has put into practice in his daily life the principles of the Scout oath and law.

12. Enlist a boy trained by himself in the requirements of a Tenderfoot.

MERIT BADGES

When he has arrived at this rank, the Scout may continue perfecting himself in various branches and take the examination in these furnished by the Court of Honor, a body of from five to eight men appointed by the local council and qualified to examine him in the subjects in which he is prepared. If he is successful in passing, he is awarded for each subject what is known as a merit badge. Of these there are sixty-one varieties, ranging all the way from agriculture to music, from life-saving to taxidermy. A complete set of booklets on these subjects has been prepared by E. S. Martin, Secretary of the Editorial Board of the National Council. See also *Boy's Life*, the official Scout magazine, and the "Handbook for Boys."

In five years 26,728 such merit badges have been awarded to Scouts. It is interesting to note that during this period the most sought after badges are those in public and personal health, swimming, firemanship, first aid, — all subjects, intensive training in which constitutes marked steps in the making of a healthy, serviceable, and responsible citizenry. It is to be noted also that awards in civics, conservation, safety-first, pioneering, and athletics have increased remarkably.

First Class Scouts may become Life Scouts by qualifying in certain specific Merit Badge subjects, namely, first aid, physical development or athletics, personal health, public health, and life-saving or pioneering. Ten more badges to his credit and he is eligible to Star Scout rank. Last of all comes Eagle rank, requiring qualification in twenty-one Merit Badge subjects, which must include first aid, personal and public health, cooking, camping, civics, bird study, pathfinding, pioneering, and athletics or physical development. In a single year 2667 Life Scout Badges, 2598 Star Scout Badges, and 1306 Eagle Scout Badges were awarded.

Scouts who have been five years in continuous active service in Scouting are eligible to Veteran rank and there is a special badge of honor for "Ten Year Men."

THE SUMMER CAMP

Throughout the spring, fall, and winter months the troop meetings and the patrol

meetings, whether in the clubroom or in the open on the hike, furnish the Scouts opportunities to study the requirements and to put them into practice. In the summer, however, when the troops are likely to disintegrate and abandon their scheme of work, the summer camp plays an important part and hence deserves special mention. Here, under daily guidance of competent leaders and instructors, is afforded every opportunity for the study of requirements and merit badges.

Apart from these practical considerations, the camp proves a wonderful attraction to the growing boy.

"Have you smelled wood smoke at twilight?
Have you heard the birch log burning?
Are you quick to read the noises of the night?
You must follow with the others, for the young men's feet are turning
To the camps of proved desire and known delight."

Throughout the United States, hundreds of these camps "of proved desire and known delight" have been established by the local councils, which for a nominal fee afford boys an opportunity of a lifetime to "quit the city's din and dust and get out where the sky is blue."

THE OWLS: TROOP ONE, TREE CLIMBING

The local council is allowed absolute freedom of management in making its camp adaptable to the particular needs of the boys of the community though subject to the general supervision of the National Camping Department. The aim throughout, though, would be identical — to develop Scouts, first class in every sense of the word.

THE CAMP ROUTINE

As an example of the camp routine the following, as used for two years in the summer camp of the Greater Boston Council, may prove typical:

6.00. Reveille.
6.15. Getting-up exercises and morning dip.
7.15. Airing bedding.
7.30. Breakfast.
8.20. Colors and parade.
9.00. Inspection.
9.25. Morning council.
10.00. Morning instruction (by the camp officers in the various Scout requirements).
11.30. Liberty.
12.30. Dinner.
1.15. Quiet hour.
2.15. Sports, hikes, etc. (Here comes an opportunity for a wide variety of undertakings, signaling especially proving a favorite.)
4.15. Afternoon swim.
6.00. Supper.
6.45. Evening colors.
7.00. Campfire. Sitting about, the boys listen to lectures from well-known authorities, furnishing instruction and inspiration. The boys themselves plan entertainments and give camp concerts.
8.15. Tattoo.
8.30. Taps.

On two days during the week the Scouts, under proper supervision, prepare their evening meals over open fires and thus receive practical experience in this branch of scoutcraft. Everything connected with scouting — woodcraft, handicraft, campcraft, nature study, day and overnight hikes, map-making, surveying, boating, swimming, athletics, campfires — is found at such a camp. Here it is we see scouting most clearly exemplified as a compendium of human ingenuity applied to practical out-of-door activities so arranged as to appeal to the boy brimful of energy and multifarious interests.

SEASCOUTING

In the United States, Seascouting was first undertaken by Arthur A. Carey, of Waltham, Mass. Early in 1911 he purchased a two-masted "Gloucester fisherman" aptly christened the *Pioneer*, which, after receiving many important alterations, was set afloat as the Boy Scout Ship. Beginning in the summer of that year, fortnightly cruises were conducted regularly for about three months under Mr. Carey's personal direction. Similar projects were also undertaken in Philadelphia, and Washington, D. C.

Seascouting progressed intermittently for a number of years until in the fall of 1917 a regular Seascout Department was established by the National Council, with James A. Wilder as Chief Seascout. The Seascout program developed as a branch of regular Scouting has proved immensely popular and profitable, particularly as an "older boy" activity. "Ships" have been organized quite generally throughout the country.

For three successive summers a Seascout camp has been maintained at Marion, Massachusetts, with practice cruises in Buzzard's Bay.

Among the things that are required of a "Cabin Boy," which is the first stage of Seascouting, is the taking of the "Sea Promise," which runs as follows:

On my honor, I will, as a Scout and as a Cabin Boy, do my best to become proficient in Scouting.

1. To learn swimming and always "Be Prepared" to render aid to those in need in connection with water accidents.

SEASCOUTS IN TRAINING IN CAMP

2. To make it my practice to know the location of the life-saving devices on every coast and aboard every boat I board; and to outline mentally any responsibility in maintaining order for myself and shipmates in case of emergency.

3. To be vigilant and cautious, always guarding against water accidents.

4. To coöperate with the responsible authorities for the observance of all regulations for the conduct and safety of boats and ever seek to preserve the motto of the sea, "Women and Children first."

SEASCOUTS IN UNIFORM

FOUNDATION STONES

Both in Land Scouting and Sea Scouting anything bearing the least semblance of a military spirit is avoided. Both branches express the same interest and purpose. Both appreciate that, important as are the physical requirements of Scouting for sound boyhood, the less tangible requisites of the Scout Oath and Law have a more subtle and far-reaching influence on the boy's future. For a boy to promise seriously, on his honor, to try his best: 1. *To do his duty to God and his country and obey the Scout laws;* 2. *To help people at all times;* 3. *To keep himself physically strong, mentally awake, and morally straight,* is of no small significance to the boy himself, to his family, and to the community. Henceforth, as long as this promise remains real to him, he is in a new sense master of his own destiny, molding out his own career.

THE SCOUT LAW

As a more definite guide for his conduct, he has the Scout Law to follow, which requires that "a Scout be trustworthy, loyal, helpful, friendly, courteous and kind, obedient, cheerful, thrifty, brave, clean, and reverent." Thus is the boy, unawares, put in touch with ideals and principles bigger than himself, to which he has taken a pledge to respond, and which must ultimately lead him to a larger and fuller view of himself as a thinking and acting being.

CROSS-SECTION OF A BOY'S MIND

Could we but get a cross-section of a normal boy's mental make-up, we would find there a little barbarism, some savagery, a little knighthood, here and there a willingness to do what others like, much hatred for convention and shams, some desire to be conspicuous, some

greed, some respectful tolerance, and a superabundance of love for adventure and good fun. Permeating this would appear an untarnished sincerity toward himself and a deep-rooted conviction that some day, if it did n't cost too much exertion, he would "make good" in whatever he decided to undertake as his life's work. Scouting, with the boy's interest at heart, has considered these many attributes — some good, some not so good, but all valuable if only guided and given equal opportunity for expression. It understood what was needed and undertook to supply the wants.

THE SIMPLE ORGANIZATION

In order for a movement such as this to afford the greatest help to the largest possible number of boys, it was made national. To supervise and conduct the affairs of the organization as a whole, a National Council was organized, composed of a large number of experts in boy psychology and in various subjects of scoutcraft, and leading business and professional men. Immediately after the incorporation of the Boy Scouts of America, this national governing body set itself to work at the thing to which it was pledged in the articles of incorporation — Section 3 of which reads as follows:

"That the purpose of this corporation shall be to promote, through organization, and coöperation with other agencies, the ability of boys to do things for themselves and others, to train them in scoutcraft, and to teach them patriotism, courage, self-reliance, and kindred virtues, using the methods which are now in common use by boy scouts," by placing emphasis upon the Scout Oath and Law for character development, citizenship training, and physical fitness.

Operating under the National Council, which has its headquarters at 200 Fifth Avenue, New York City, and similarly organized, are the local councils, already some six hundred or more in number in the United States. These are composed of men who give their time voluntarily. For the purposes of administration these councils are limited in jurisdiction to the boundaries of towns, cities, or counties. In matters of large policy, affecting the national character of the Scout work, they are directly controlled by the National Council, from which they receive their charter. In arranging and directing such programs and policies as fit the needs and interests of the community for whose benefit they exist, however, they are allowed wide latitude.

These local councils frequently find it desirable to subdivide their work among local committees. By this means of distributing responsibility, they gain greater efficiency in the supervision of detail.

SCOUT COMMISSIONERS AND EXECUTIVES

The local council has as its active agent a Scout Commissioner, appointed at its request and on its approval by the National Council. Councils of the first class, that is, councils able to maintain an office and employ a paid official, are directed by a Scout Executive. The duty of Scout Commissioners and Executives is to watch over the details of the work locally, to enlist Scout Masters and encourage them in their undertakings, and, in general, to direct local Scout activities. The Scout Master is the "boy's man" in Scouting, the Scout Executive, the "man's man."

SCOUT MASTER

The applicant must be of good moral character and genuine in his own life. He must needs be virile, able to command the respect of boys, sufficiently resourceful and competent to be their actual leader. With these qualifications should be united a controlling spirit of optimism, fairness, and impartiality, as well as an abundance of common sense. Familiarity with Scout requirements is not a prerequisite to the office. It is assumed, however, that he will be able to help boys under his charge in meeting their various tests for advancement. Any special features which he considers in harmony with the Scout idea he may and is encouraged to inculcate.

A BOY SCOUT RALLY IN ENGLAND

Twenty thousand boys charging past Prince Arthur, shouting their calls; and cheering the King.

SOME SCOUT HISTORY

WHO GAVE THE NAME?

WHO originated the Boy Scout movement? That is answered in various ways. If you mean who gave the name, which is a remarkable one, and who formed the first troop, the answer is, Lieutenant-General Sir Robert Stephenson Smyth Baden-Powell of England, undoubtedly the greatest boy leader of the Old World. If you mean, where did the ideas come from that center in the present Boy Scout movement, the answer is that credit belongs to a number of boy leaders and organizations; and two of the most prominent are American: Daniel Carter Beard, who organized the Boy Pioneers, or Sons of Daniel Boone; and Ernest Thompson Seton, who called his groups of boys Woodcraft Indians. Both these men were lovers of nature and wanted to get boys into the free life of the woods and out of the unhealthful and unwholesome loafing places of the city. Their movements were finally merged in the Scouts, because they found full scope and best chances for development in a single organization.

THE BOY CADETS OF MAFEKING

Let us see where General Baden-Powell got his Scout start. His experience in India and among the Zulus in South Africa had made him a firm believer in the "School of the

Wild" as a training place for the best sort of young manhood, and he longed to see the boys of England as self-reliant, quick to help, and well disciplined as the Zulu boys. Then the siege of Mafeking, during the Boer War in South Africa, taught him what boys could do when their courage and manliness were appealed to. He says, in the *Pall Mall Magazine:* "In Mafeking our boys showed that boys can be of value in a crisis. We were hard pressed there for want of men — we had only a little over seven hundred drilled men in our garrison — and about three hundred business men of the town. With a widespread place to defend, it needed rather a large number of orderlies or messengers to be constantly on duty. Then it was that Lord Edward Cecil, the chief staff officer, got together all the boys of the town and formed them into a Cadet Corps. Their chief duty was to act as dispatch-riders, messengers, and orderlies, and this work they took up most willingly and did it well, although it was hard and dangerous — being carried out day and night, and very frequently under fire."

THE FIRST SCOUTS IN ENGLAND

When General Baden-Powell got back to England, after the Boer War was over, he found a great degeneracy, as it seemed to him, among the boys and young men when he contrasted them with English youth as he knew them in his younger days. There was an army of what he called "wasters," or "loafers," as we should call them. Many were entering "blind-alley" occupations, that is, places that lead nowhere; others were taking up work thoughtlessly; and still others, not needing to work for a living, were drifting and going to the bad for want of some real interest in life. Forty-six per cent of the English boys were growing up without any trade. Something must be done. Then he remembered the boy scouts of Mafeking, and asked himself why the boys could not be organized for service in peace as well as in war. Full of the idea, he organized a small group of boys at a camp on Brown's Island in Dorset, in the summer of 1907. That was the original troop of Boy Scouts, and will become historic. Then he turned to the movements already organized in America for ideas and suggestions, and early in 1908 he began to publish serially the material that makes up the English handbook called "Scouting for Boys." In his modest way, when he was introduced at a banquet in New York City as the father of the Boy Scout movement, General Baden-Powell said: "You have made a mistake, Mr. Seton, in your remarks to the effect that I am the father of this idea of scouting for boys. I may say that you are the father of it, or that Dan Beard is the father. There are many fathers. I am only one of the uncles, I might say. The scheme became known at home. Then I looked about to see what was being done in the United States, and I cribbed from them right and left, putting things as I found them into the book."

But it is well said that if General Baden-Powell did not father the Boy Scout idea, at least he became its great genius, its supreme organizer, and under his leadership the movement spread throughout England, Scotland, Germany, France, Italy, Australia, and New Zealand, and has taken root in South America and South Africa.

IN THE UNITED STATES

In 1909 a preliminary manual was prepared that after many evolutions has become the "Handbook for Boys," which to date has passed through twenty-six printings, with a total of nearly two million copies, and is said to be the most popular boys' book in the world.

It was not the aim in this country to establish entirely new organizations that might conflict with others already formed, but rather to furnish established organizations with the unique features of the Scout program and thereby increase their effectiveness. Coöperation is the keystone of the Scout movement policy.

"The Boy Scouts of America" was incorporated under the laws of the District of Columbia, February 8, 1919, a date which is celebrated annually as the "Scout Birthday" from coast to coast. The organization was chartered by act of Congress in June, 1916, which specifically protects its uniform and insignia and gives it a national standing.

BOY SCOUTS IN OTHER LANDS

Top: Lieutenant-General Baden-Powell; an inspection by officers of the German army; a primitive toilet; the first Brussels troop, Belgium. Bottom: A group in distant Siam, and a fire brigade.

The President of the United States is always the honorary president of the organization and upon retiring from the presidency becomes honorary vice president for life. Colin H. Livingstone of Washington has been the acting president of the organization since its inception, as James E. West has been Chief Scout Executive, and Daniel Carter Beard, Scout Commissioner. Mr. Beard is also an honorary vice president, an honor conferred upon him by the National Council in recognition of his distinguished pioneer services to American boyhood.

WONDERFUL GROWTH AND THE REASON

The growth of the Scout movement has been more rapid in this country than in any other. To-day the Boy Scouts of America has a membership greater than the combined Scout membership of all the rest of the world, according to figures compiled by the International Scout Bureau at London. An army of half a million boys and men levied to make war upon the bad habits of the world — that catches the imagination. Scouting fights bad habits with

good ones. Instead of saying "Don't," it says "Do." That suits the modern boy, who is not negative, but positive. Boys like the two cardinal principles which support the Scout movement, old-fashioned and homely though these principles be: First, every boy enjoys those activities most which appeal to the best there is in him; and second, the best can most surely be drawn out by example, rivalry, and encouragement. Example is furnished by his associates and elders, chiefly the latter. Rivalry is stimulated by intimates of his own age, and should be directed by someone older.

What better than Scouting can afford opportunity for applying these principles? Here are all the benefits of group association. Here are supplied occupations affording abundant chance for wholesome rivalry, and all under the guidance and stimulus of the Scout Master. It offers, too, a wonderful schooling in the big out-of-doors, taking the boy out of himself, and developing in him powers of observation, deduction, and description; increasing his self-control and self-reliance, teaching him courtesy, thoughtfulness, and unselfishness.

Scouting knows no social distinctions. The spirit of democracy pervades it. It brings together the conspicuous and the obscure, whose interests and ideals are at heart one, and fosters good will and kindly appreciation. The demand for unselfish coöperation, necessary in a good citizen, is all-important in Scouting. From the beginning, character building and citizenship training have been fundamental in the Scout program and purpose.

NATIONAL AND COMMUNITY SERVICE

At all times dedicated to service and trained for service. Boy Scouts came for the first time preëminently before the public in this capacity during the war, when they did such remarkable work in operating war gardens, collecting gas mask material, locating walnut timber, selling Liberty Bonds and War Savings Stamps, cooperating with the Red Cross, the Community Service, the Salvation Army, and indeed with practically every patriotic agency, working in a non-military way.

But Scout civic service is by no means confined to war-times. The public has learned to count upon this fine young peace army for a hundred varieties of coöperation. Scouts work with forest wardens in preserving wild life and preventing and fighting fires; with park policemen in protecting shrubbery and flowers from depredation. They conduct Safety First and City Clean-Up Campaigns; make tree surveys, plant new trees, make war on mosquitoes and gypsy moths, help manage traffic on holidays and in big parades, have charge of community or school flags, run school fire drills, guard crossings, collect and mend toys for re-distribution among poor "kiddies" at Christmas — in short, perform uncountable services, small and big, for every good non-partisan cause. They are organized for service — citizens not only of the future, but here and now.

LIFE-SAVING

Every Scout is trained in first aid and life-saving work, and it is remarkable how thoroughly they live up to their motto, "Be Prepared."

In a period of ten years 541 medals have been awarded to Scouts for conspicuous service in the saving of life at the risk of the rescuer's own; and this of course takes no count of the thousands of other cases where rescues were effected by Scouts with no actual risk of life but under conditions which called for a high degree of efficiency, and the exercise of pluck, common sense, quick thinking, and quick action, — applying tourniquets, resuscitating persons seemingly asphyxiated or drowned, stopping runaway horses, capturing children from burning buildings or snatching them from under motor cars, standing guard over live wires, preventing panic when a sudden disaster occurs, looking after fainting persons in crowds, maintaining first-aid booths at county fairs. These are only a few of the services performed by Scouts in living up to their pledge to "help other people at all times" to "save life and to help injured persons."

THE SCOUT EMBLEM AND MOTTO

The Arrowhead — really the old Chinese sign of the north, used by them 2634 years before Christ, which has for centuries marked north on the mariner's compass — has been adopted

with some modification as the emblem of Scouts all over the world. It symbolizes faithfulness and persistence in the line of duty chosen. Superimposed upon this in the emblem as used in the United States is the American eagle, typifying strength, liberty, justice, and equality for all. These are attributes for which the Scout movement must stand.

Below these on the scroll are the words, "Be Prepared," implying readiness for every emergency that may occur, for every task that presents itself; and beyond this, preparation for the big duty of living, of giving oneself in service for others and for a noble cause.

After visiting twenty centers of Scouting in this country, General Baden-Powell made a very favorable report, in which, after congratulating the Scout Masters on what they had achieved, he had this word for the Scouts:

Scouts, I am delighted with what I have seen of you and with the reports which I have heard of your work. People now recognize that you are not merely a lot of boys playing games, but like good backwoodsmen you are strong, smart fellows, able to lend a hand where there is anyone in trouble, able to look out for yourselves and to do your duty as Scouts at all times. Remember the saying, "Once a Scout always a Scout," which means that what you are learning now and practicing as Boy Scouts, you should continue to practice as men the rest of your lives. Be prepared to do it. Don't forget that Scouts in other countries are your brother Scouts. "Good camping" to you all.

Yours very truly,

ROBERT BADEN-POWELL.

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CATHOLIC BOY CADETS ON PARADE AND REVIEW

CODES AND SIGNALING

TO SIGNAL WITH FLAG OR TORCH WIGWAG

The first position is with the flag held vertically.

The first motion is to the right of the sender, moving the flag, or torch, through an angle of 90°, and returning it to the vertical position. In the Myer Code this motion represents "one" (1).

The second motion is a similar motion to the left of the sender. In the code it indicates "two" (2).

The third motion is downward in front of the sender and back to the vertical. It indicates "front" or "three" (3).

The alphabet is made up from these motions according to the following arrangement:

WIGWAG, OR MYER CODE

A	22	O	21
B	2112	P	1212
C	121	Q	1211
D	222	R	211
E	12	S	212
F	2221	T	2
G	2211	U	112
H	122	V	1222
I	1	W	1121
J	1122	X	2122
K	2121	Y	111
L	221	Z	2222
M	1221	tion	1112
N	11		

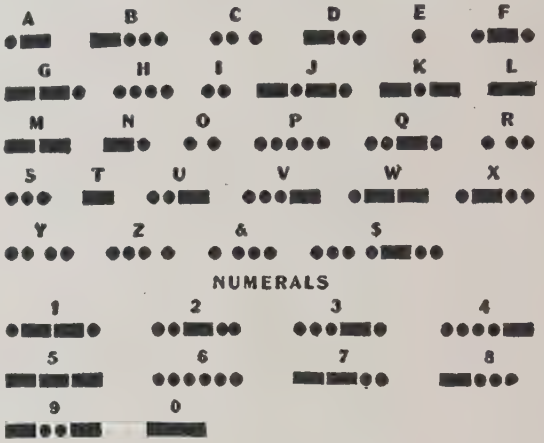
NUMERALS

1	1111	6	2211
2	2222	7	1222
3	1112	8	2111
4	2221	9	1221
5	1122	0	2112

THE SEMAPHORE SIGNAL CODE

This code is less desirable than the Morse or Myer. The reader who wishes to study it will find the necessary description and diagram in the "Handbook" of the Boy Scouts of America, a useful little book to have.

THE AMERICAN MORSE TELEGRAPH ALPHABET



WHISTLE SIGNS

One long blast = *Silence; Look out.*

Two short blasts = *All right.*

Succession of long, slow blasts = *Go out; Get farther away; Extend.*

Succession of short, sharp blasts = *Rally; Close in; Danger; Come together.*

Three short blasts and one long one from Scout Master = *Patrol leaders, come here.*

RAILROAD SIGNALS

COLOR SIGNALS

Red = *Stop.*
Green = *Go ahead.*
Yellow = *Go cautiously.*
Green and White = *Flag station, stop at night.*
Blue = *Workmen busy under car.*

HAND, FLAG, AND LAMP SIGNALS

Swung across track = *Stop.*

Raised and lowered vertically = *Go ahead.*

Swung at half arm's length, in small circle across track, train standing = *Back up.*

A LONG WAY TO GOOD WATER. GO IN DIRECTION OF ARROW.
WE CAMPED HERE BECAUSE ONE OF US WAS SICK.
WAR OR TROUBLE ABOUT.
LETTER HIDDEN THREE PACES FROM HERE IN DIRECTION OF ARROW.
THIS PATH NOT TO BE FOLLOWED.
I HAVE GONE HOME.

UT ROAD AND FIELD DIRECTIONS

at arm's
unning =

in stand-

ead, train

tally and

Stop.
palms for-

pt back toward opposite shoulder = *Come back.*

SIGNALS BY ENGINE WHISTLE

(o, *a short toot;* —, *a long one.*)

— ooo = Flagman go out to protect rear of train.

— — — — = Flagman return from west or south.

— — — — — = Flagman return from east or north.

— — — = (when running) Train broken in two.

oo = All right (the answer to any signal not otherwise provided for).

ooo = Back up; also reply to signals to "back up," to show these have been understood.

oooo = Call for signals.

— — oo = Approaching grade-crossings, and at whistle posts.

— = Approaching stations.

oooooooooo = Cattle or persons on track.

CONDUCTOR'S SIGNALS ON CORD-PULL

Two pulls = *Start.*
Three pulls = *Back.*
Four pulls = *Put on or take off brakes.*
Five pulls = *Call in flagman.*

(The above are for train standing; the following are for train running.)

Two pulls = *Stop at once.*
Three pulls = *Stop at next station.*
Four pulls = *Reduce speed.*
Five pulls = *Increase speed.*

(The engineer responds to these with two short toots, meaning "All right," except for the "Stop at next station" signal, which he answers with three short toots.)

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A YOUNG ENTHUSIAST

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READY FOR ANY KIND OF GAME; JUST THE CROWD TO PLAY THE GAMES DESCRIBED BELOW

STREET AND PLAYGROUND GAMES

TWO INDIAN GAMES — SNOW DART AND HOOP TARGET

SNOW dart was once very popular among the Indians of the north woods. It is extremely simple and yet very interesting. A track is made down a steep little hill, and at intervals little hollows, or rises, are made in the surface, which is otherwise as smooth and hard as it can be made. The dart is a little rounded stick with a blunt end, and usually made so as to taper toward the back end. The game is played by sliding these darts down the hill. The score is made by the darts which progress over the obstacles, each obstacle crossed counting one point. It is capable of more skill than might seem possible, and the running up and down after the darts keeps up the activity necessary for an outdoor game in winter. Each player has an equal number of darts, usually four, and the sliding is done in turns, one at a time. The darts may not be thrown. They must travel by their own momentum wholly, being merely loosed from the hand.

Hoop target is another game taken from the North American Indians. It consists in darting a spearlike stick, about four feet long, through a hoop that is rolling on the ground. To do this requires great quickness as well as skill. This is also best played on a smooth incline, so that the hoop may be easily rolled. When there are many players, they are arranged in a line, and each player throws at the hoop as it passes him. One player must stand at the head and roll the hoop. The size of the hoop can be adjusted to the skill of the players. One used to see grave old Indian chiefs and warriors playing this game, the cunning of eye and hand required being much to their liking. Such skill can be reached that a hoop only six inches in diameter can be successfully used.

An added interest may be developed by choosing sides, when there are a sufficient number of players. In that case the players are arranged alternately along the line. As each round is completed, the player at the head of the line goes to the foot, and the line moves up one. In this way all have an equal chance. If the hoop is knocked over the game can be played

with bean bags, or other objects in place of the spear.

NEW BALL

This game is gaining favor among the boys in our eastern states and is almost certain to be taken up on its merits wherever there are boys and playgrounds.

It may be described as football without scrimmaging, and therefore without roughness. It probably arose from the habit of certain football coaches of putting their teams through plays with an opposing team, but without scrimmage.

The game is played in every respect according to the rules of football, with the exception that the players on the line are spaced five feet apart, and, when a player is tagged by a touch of the hand of a player on the opposing team, he must instantly stand still. He may or may not be the runner with the ball.

Every play used in football can be carried out. The open field gives a fine opportunity for dodging. Kicking and the running back of kicks become prominent features. Interference by pushing or shouldering is not allowed. Tackling is allowed only by the tag. Speed, team work, and skill are required for the game, which becomes intensely exciting, and injury cannot result. We recommend this game to boys who love football. It is excellent drill for the heavier game, and teaches many fine points. The game can be played, omitting the kicking feature, with any soft object in place of the ball. For a full understanding of the game turn to our section on football. It is an excellent game for the sea beach.

SPUD BALL

This game can be played on the playground or in the gymnasium. Ten to thirty or more players can take part in it. Each player is numbered; the players are then scattered promiscuously over the grounds. Someone tosses the ball and at the same time calls out the number of some other player. The player whose number is called must run forward and catch the ball before it has bounced more than once. In case the person whose number is called fails to do this, the first tosser again tosses the ball, calling out another number. This is repeated, the first tosser tossing the ball and calling a new number until some number is successful and catches the ball. This successful one then becomes the tosser, taking the place of the first tosser. When the numbers called fail to catch the ball, they merely rejoin the others; but three failures puts one out of the game. The game is more exciting if the one who is tossing the ball calls out names of players who are a considerable distance from the ball, or those who will have a hard time to reach the ball in time. There is no limit as to the number of times that a player may be called, and it also increases the interest to call the same player twice, thus taking him unawares. In case a large number are playing the game it is well to have two balls tossed by two tossers.

BOUNDARY BALL

The ball used in this good, active game is any basketball or football. A small or hard ball should not be used.

The field is usually from forty to sixty feet long, and it is divided in the middle by a line. The object of the game is to throw the ball across the back boundary of the opposing line, each ball so thrown constituting a score of one point. If the ball rolls across the line, it must be brought out five feet and put in play, and does not count as a score. The ball is put in play at the middle of the field by a player designated for that purpose from the side holding the ball. At the beginning of the game the side to throw off is determined by tossing a coin. The players line up, at the beginning, ten feet from the center line, each on its own side.

It is thus possible for each side to intercept the ball at the point of its line-up. However, players from the line may run back of this line-up to keep the ball from going over the rear boundary line. The party must line up for the next play at the point at which the ball is stopped by the former player. Naturally the chances for interfering are less as the rear boundary line is approached, and for this reason one object of the game is to force one's adversaries as near the rear boundary line as possible. Individual players may run forward of the first or succeeding line-up to catch the ball, but

the whole line-up cannot move beyond its first position. Even though the line-up has been pushed backward, should the ball be caught between this new line-up and the first line-up the line-up moves forward to the point at which the ball was caught. In case the ball rolls along the ground, the line-up take their stand at the point at which the ball stops rolling or at the point at which it is stopped by the players trying to catch it. Should the ball roll beyond the rear boundary line, it does not score a point. A party forced back to its rear boundary line must stand on that line until it succeeds in stopping the ball forward of that line, in which case it may move forward to the new point. A point is scored every time the throwing party gets the ball beyond the rear boundary line of the opposite side. Five points make the game.

VOLLEY BALL

This game may be played by from two to thirty players. For a large team the ground or floor space should be fifty feet long by twenty-five feet wide. A net about two feet wide, or a tennis net, is stretched across the center of the space, from side to side. The net should extend about two feet beyond the boundary line on either side. The players are evenly divided into two parties. These are scattered over each court without any special arrangement. There is a captain for each side. The game consists in keeping a large ball in motion with the open palm. The ball must not touch the floor. Each side scores upon its opponents' failure to return the ball or to keep it in the air. The ball is served by the party which is to score. The server of the ball stands at the rear of his court with one foot on the rear boundary line and the other foot behind the line. He then tosses the ball up lightly from one hand and bats it with the palm of the other hand toward or into the opponents' court. Each server has two trials in which to send the ball into the opponents' court. The ball can be assisted toward the opponents' court by two other players on the server's side. No player thus assisting the ball can strike it more than twice in succession and in the instance of its being assisted the server can strike it but once. Also, should the ball then fail to land in the opponents' court the server loses his second serve. The server must bat the ball at least ten feet before it can be touched by any other player on his side. "Dribbling" is to keep the ball in the air by one player hitting it quickly and repeatedly. This is not allowed in serving. As long as the server is successful he continues serving until his side allows the ball to touch the floor, or in case he knocks it out of bounds, or if he fails to return

CHOOSING SIDES

it to the opponents. Should a returned ball hit a player on the server's side and then bounce into the opponents' court it is considered a play. Should it hit the player and not bounce into the opponents' court the server is out and cannot have his second trial. Should the ball hit the net it is counted a dead ball and the server loses one of his trials. If the ball after being served falls outside the opponents' court the server loses his turn. The players on a side take turns at serving. The ball must be returned by the opponents before it touches the ground. Any number of players can strike the ball to

assist it across the net, but no player can strike it more than twice in succession. The volleying of the ball back and forth across the net is kept up until one side fails to return it or allows it to touch the floor or to go outside of bounds.

If a player touches the net the ball is thereby put out of play and the player, if he is on the serving side, causes the serving side to lose the ball, it being handed over to the opponents. Should the player be on the receiving, the serving side then scores one point. In case that the net is touched simultaneously by both sides, the ball is called out of play and the serving side serves again. The game is an entirely defensive one, since the score is made up on opponents' fouls and failures. Except in the case of fouls, only the serving side scores. Players should aim for an unprotected part of the opponents' court. A good serve unreturned scores one point for the serving side. If the opponents fail to return a ball which is in play, the serving side scores. If the serving side fails to return the ball to the opponents' court, the serve goes to the opponents but no score is made. A ball sent under the net is out of play and counts against the side which last struck it, and the opponents score one point. If the ball is sent out of bounds by the receiving side in returning a service it scores one point for the serving side. The opponents score a point whenever a player catches the ball or holds it even for an instant. The game consists of twenty-one points. It is exceedingly lively, and calls for speed, quick judgment, and ability to hit the ball in the desired direction.

DUCK ON THE ROCK

This game is played with stones about the size of a baseball. The stones are called ducks. A larger stone is placed at a convenient spot and one of the ducks is balanced on it, and the player whose duck it is stands by as guard. The other players stand behind a line called the throwing line. This is drawn twenty-five feet from the duck rock. The players then attempt, by throwing or rolling their ducks, to knock the duck off the rock. After throwing his duck each player must recover it. The guard attempts to tag him while he is doing this. But he may not be tagged after he has crossed the throwing line or while he has his foot on his duck. But after he has once picked up his duck, he cannot put it down again. The guard cannot tag any player unless his own duck is on the rock. If it has been knocked off, he must first replace it. If he is chasing one player and another knocks the duck off the rock before he tags him, he must stop and replace the duck. When the guard succeeds in tagging a player, that player becomes guard. The first guard is chosen by each player throwing his duck as near as he can to the duck rock, standing at the throwing line. The player whose duck is nearest becomes guard. The game is much safer if the ducks are thrown one at a time in rotation instead of in a shower.

THREE DEEP

The players are arranged in a wide circle in two rows one inside of the other. The players on the inside circle stand immediately in front of the players of the outside circle. Two players remain entirely outside of both circles, one on either side. One of these players is the tagger and the other the runner. The runner may avoid being tagged by entering the circle and standing in front of any two of the double circle, thus making it three deep at that point. The outside player of the standing circle at this point then becomes the runner, and the tagger must chase him. He is not allowed to take a stand, at starting, immediately in front of the circle nearest him when he starts. He must pass at least two couples before seeking such a refuge. If the tagger tags the runner, they change places, the runner becoming the tagger.

CAPTAIN BALL

This game is played in many ways. The simplest and also the fastest form of the game is that described here. A side consists of seven players, one of whom is a captain. Three of the players on each side take positions on three bases that have been marked out. These bases are circles larger or smaller according to the skill of the players. They should not be more than six feet, nor smaller than two feet, in diameter. They are arranged in two triangles, one triangle

for each side. The distance between the bases forming one triangle should be from twelve to twenty feet and the distance between the two triangles about twenty-five or thirty feet.

One player stands on each base, the captain occupying the point of the triangle, which should be the base farthest away from the opposite triangle. Near each base stands a guard of the opposite side. A fielder, the seventh player on each side, is placed in the center of the triangle. He may run in any direction to recover the ball.

The ball is put in play by being tossed up by an outsider, or umpire, in the middle space between the two triangles, where the two fielders take their place for the start. When it is tossed, each fielder tries to catch it. As soon as he catches it he must throw it to one of the basemen of his own side. The guard stationed near that baseman attempts to prevent his catching it and to catch it himself, when he throws it to a baseman of his own side. The object of the game is to get the ball into the captain's hand. As soon as this is done a point is scored, and the ball must be put in play again, as at first.

A baseman may have one foot out of his circle when catching a ball, but he cannot have both feet outside. A guard cannot have either foot within the baseman's circle. When a player fails to catch the ball, the fielder should recover it. The ball may not be held longer than time enough to turn around quickly. The ball cannot be handed to a baseman. A ball cannot be kicked or rolled to a baseman. Any transgression of the rules is a foul and entitles the opposite side to a free throw, without interference, to its captain. The guard, however, near the captain's base, may endeavor to prevent his catching the ball on a free throw, as on any other.

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MORE THAN ONE KIND OF GAME CAN BE PLAYED ON A BASEBALL GROUND; AND SPORTS THRIVE IN CITIES JUST AS PLANTS THRIVE IN THE CRANNIES OF ROCKS

BASTE THE BEAR

This is a very old game and makes a great deal of laughter and fun. One of the players is chosen as a bear and another as his keeper. A short rope about two feet long with a knot at each end is taken hold of by the bear and his keeper, and they may not let go. The other players form a ring around them and when the keeper calls out "My bear is free," they attempt to dodge in and tag the bear without being tagged by the keeper. The keeper tries to keep the bear from being tagged by dodging in front of him and between him and the players who are trying to tag him. When the bear is tagged, the one tagging him must dodge quickly away to avoid being tagged. When the keeper tags a player, the player tagged becomes bear and the bear becomes keeper.

BUNG THE BUCKET

This game is an amusing modification of leap frog. The players are divided into sides. One side forms a back by each player stooping down behind a first player who may support himself against one standing back to the wall. The backs hold closely together so as to form one long continuous back, the head or shoulder of each resting on the one in front of him and the hands grasping his waist or his clothes firmly. The players of the other side take a running start and attempt to seat themselves astride as far forward on this back as possible. After jumping, the player remains seated where he is and may not move forward. A second player jumps behind him and the effort is to seat all the players on the back, without breaking it down. The backs are called "buckets" and the jumpers are called "bungs." If the buckets break down, a score is made for the opposite side, and the side changes. If all the bungs are seated the bungs score, and the game goes on without a change of sides. If the bungs are not able to seat themselves, the sides change and a score is made for the buckets.

THIRD SLAP

Five to thirty or more players may take part in this game. The players are to be divided into groups of from five to ten in a group. Each group chooses a person who is to be "It." The others line up in front of him, standing about thirty feet from a spot decided upon as the goal. The players in the line hold their hands out from the length of the forearm, having the elbows bent and the upper arm touching their sides. The palms of the hands are turned downward. The person who is "It" tries to slap the hands of any of the players. They are to evade him by dodging the hands downward, upward, or sideways at the wrist, but they cannot withdraw the arm or change the position of the elbow. When a player has received three slaps on one or both hands, he must, as soon as he is slapped the third time, chase the one who is "It" toward the goal. If the slapper is caught before he reaches the goal he must continue as before, but if he gets safely to the goal, he exchanges places with his pursuer, who is then "It" and becomes the slapper for the next round. The sport is increased if the slapper be especially quick in his movements and dodges quickly from one player to another. He can also make the game more exciting if he makes as many false moves as possible, faking where he is going to strike next, thus throwing the players off their guard as much as possible. Though this is not a complicated game it can become a very exciting one and one that is full of spirit. It is a good game to start when the interest of a party of young people is beginning to lag and no one seems to know what to do.

STILL POND; NO MORE MOVING

This is an excellent game for diversion and can be played in the house. There should be at least five players. One player is blindfolded; the other players scatter promiscuously about. The person who is blindfolded is led into the center of the room and someone asks:

"How many horses has your father in his stable?"

He replies, "Three."

"What color are they?"

He replies, "Gray, white, and black."

"Turn around and catch whom you may."

The person who asked the questions then spins the blindfolded person around so as to confuse his sense of direction. He then says,

WHILE MOST OF US ARE PROUD IF WE CAN MERELY WALK ON STILTS, THESE OLD SPANIARDS THOUGHT LITTLE OF DANCING ON THEM TO THE TUNE OF THE JOLLY PIPERS

"Still pond; no more moving," whereupon the other players must stand still. The blindfolded player then begins to grope for the others. The players who are standing still cannot move more than three steps. When the blindfolded player catches anyone he must guess by feeling his hair, dress, etc., whom he has caught. If he guesses correctly he exchanges places with the person caught, who then becomes the blindfolded one. If he cannot guess who the person is he must let him go and continue his search. He may have two guesses as to who his captive is. In trying not to be caught the players may stoop, dodge, lean to one side or resort to any device they can as long as they do not take more than three steps from their first position. After the blindfolded one has caught him, the captive may resort to many ways to disguise his identity — stooping to make himself shorter, standing on tiptoe to seem higher, sucking in his cheeks to make his face thinner, blowing them up to make them bulge out, etc. The game arouses much merriment and is excellent for a party of young people. One person should be chosen as umpire — to ask the questions of the blindfolded person, to spin him around, and to watch whether the players go beyond their three steps.

CASTLE

This is a form of hide and seek. It is a still hunt, and may be carried on with great skill, on a suitable plot of ground, or in an old barn. If it is played entirely in the open, there should be trees, shrubbery, or other obstacles in the place, behind which it is possible to hide. The game can be played in the woods, and it is an excellent game for Boy Scouts. It is entirely suitable for active girls as well.

The party is divided into two sides, the defenders and the besiegers of the castle. The castle is a plot of ground suitably marked out and sufficiently large to render its perfect protection difficult. An old barn with many entrances and

windows makes a fine castle. The besiegers should outnumber the defenders. As a rule, there should not be more than five defenders. There may be any number of besiegers.

Each side chooses a captain, who directs all of the activities of his side. If he is not managing well he may be deposed and another captain elected.

The point of the game is for the besiegers to gain an entrance to the castle undetected. Any besieger who succeeds in doing this shouts "Charge," and the rest of the besiegers rush for the castle. At the same moment, the captain of the defending party counts aloud. If a second member of the besieging party rushes into the castle before the captain counts twenty after the word "Charge" has been shouted, the castle is regarded as captured. If no one of the besiegers succeeds in doing this, the one who first entered becomes a captive, and must assist the defenders in holding the place.

When the defenders capture the captain of the opposing side the game is won by them. When either the castle or the captain of the defenders is captured by the besiegers, the game is won by the besiegers. The captain of the defenders may be captured, if he is caught sallying beyond the castle. As it may be necessary to place outposts to guard the position, he may often be called upon to run this risk. When a player is discovered by one of the other side in a position outside of his own bounds, he is captured upon the mere announcement of this discovery. It is not necessary to catch or hold him. The game thus depends upon skill in making a way into the castle on the one hand, and skill in defending all of the possible lines of approach on the other.

CASTLE, AS PLAYED BY SQUIRES IN THE MIDDLE AGES

There was a very ancient game that went by this name and which was played in a similar but rougher manner. It was a favorite method of entertaining distinguished persons in the days of chivalry, and has been played as a spectacle before the kings of England in the days of knighthood. The players were the young squires, or sons of gentlemen. The castle in this game was defended by wrestling and not by watching only, and the two sides were equally divided. The castle was usually built for the purpose, and the attacking party attempted to scale the walls, and the defenders to hurl them off.

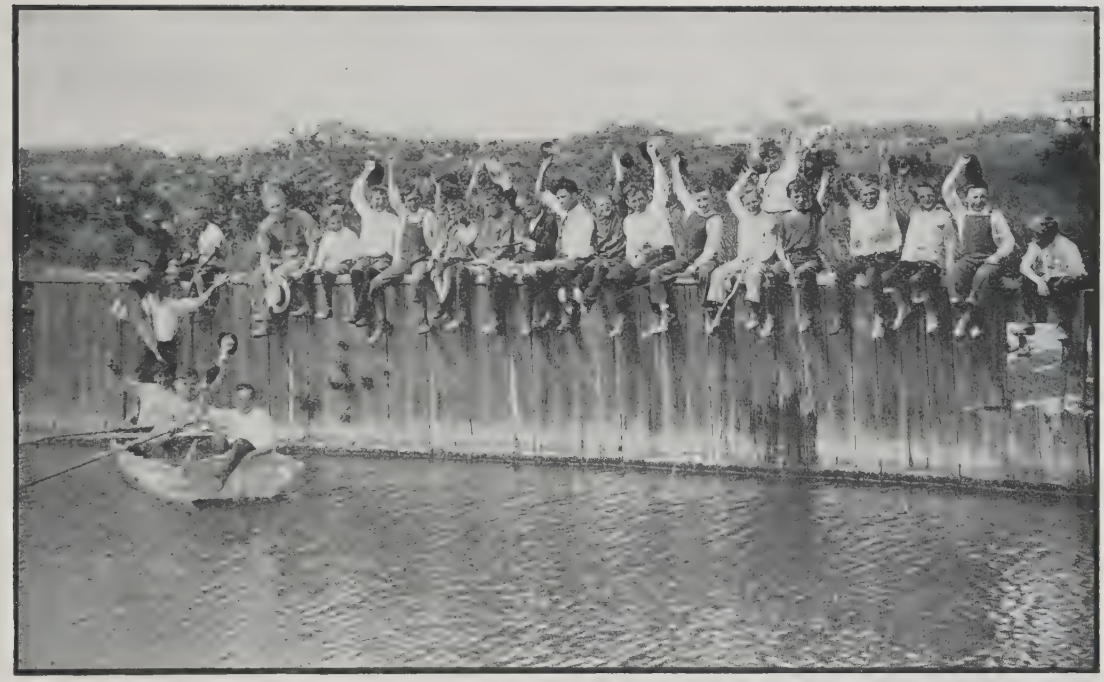
This was an imitation of war, and a very rough game, but it evidently delighted our warlike ancestors, for it was considered a great honor to arrange such a game. The modern way of playing is, however, much better suited to our times.

PIRATE

This game goes by several names in different localities. It is sometimes called Policeman, and sometimes Den.

Any number of players may engage in the game, and it is not too rough for active girls. It is a running game, requiring quick dodging as well.

Each player chooses a den, which must be some well-marked point, as a tree, post, house corner, or the like. At the opening of the game any player may sally forth from his den, and any other player may give chase. If the second player captures the first, by catching and tagging him, the one tagged must become a captive to the other and assist him in capturing others for his den. The original owner of the den is the captain of his group, and they must act under his orders. A third player may set out after the second and may tag either of the other two, or both of them, but no player is allowed to tag one who left his den after him. Each return to his den throws off all pursuit and puts the runner in again, if he runs out, with the advantage over the others who have left their dens before him. No one can be tagged while in his den. It will be seen that as the game progresses the players become divided into fewer and larger groups, and the plan of campaign becomes more and more engrossing. The captain of a large group may exercise considerable generalship in arranging his plan of attack and defense. He can send out decoys, to draw out runners of the other party, and carefully cover them by later runners sent out, who can approach them without fear of being tagged. When all of the players are gathered into one den, the game is won.



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TWO DOZEN JOLLY FISHERMEN — OR IF THEY AREN'T ALL FISHING THEY WOULD ALL LIKE TO BE

MASCOT

This is another new game just coming into favor, and, like so many, originated in the sports of the bathing beach. The mascot is an object chosen and agreed upon by both sides. Any number can play. Scoring is done by the watch. Each minute that the mascot remains in the possession of a side, counts one. The first three minutes after play is called do not count. The side holding the mascot conceals it and stations a guard within twenty feet of the point of concealment. As soon as the mascot is found, the guard races with the finder for the nearest goal, of which there are two. If the guard arrives at a goal before the finder, his side retains the mascot, and continues to score, time being taken out for the hiding of the mascot. Players should be stationed in unlikely places and in likely places also, so as to deceive the searchers as to the whereabouts of the mascot. If the mascot remains hidden ten minutes, the guard may seize the first opportunity to run with it to the goal. If he succeeds in beating all of the players of the other side to the goal, he wins twenty points for his side. As the time goes on, the excitement of the game increases. The following rules should be observed. After choosing the mascot, sides are chosen. The first holder of the mascot is decided by tossing a coin. The side not holding the mascot must retire to their own goal. The others scatter, and one of them carries the mascot. He must conceal it in some other place than about his person or that of any other player. Three minutes are allowed for the hiding. At the expiration of three minutes, and without any other announcement, the searchers may begin to look for the mascot. They are allowed three minutes in which to find it, during which the time is not counted to the credit of the side holding the mascot. If they succeed in finding it in the first minute of play, they score twenty points; the second minute of play, ten points; if in the third minute of play, five points. After three minutes, each minute counts one point for the side holding the mascot. No point is scored after finding the mascot,

unless the finder beats the guard to a goal. The mascot must be hidden at least fifty feet from a goal. The guard must be at least fifty feet from the goal, that is, he cannot be stationed between the goal and the hiding place. The finder must take the mascot in his hands when he runs, and must not drop it. The game is much facilitated by choosing a time-keeper, who calls out every half-minute. It is also better to choose a captain for each side.

BLOW THE HORN

This is a very old forest game. It originated in France in the old days of deer hunting. It may be briefly described as the opposite to hare and hounds, in that the chasers, in place of the chased, give signal of their whereabouts. Two are set aside as deer, and the remainder of the party are hunters. The hunters carry a horn. They must hunt in a body. The deer are given a "law" of from three to ten minutes, according to the severity of the game contemplated. Bounds are established, outside of which the hunt cannot proceed. The deer must remain away from the goal, or starting point, one hour, unless previously caught. The hunting party must sound the horn every half-minute. The deer must seek to elude them. The country over which the game is to be played must be neither too open nor too much wooded, if the play is to be even. The hunting party are allowed four hounds. These hounds act as scouts to search out the deer. The deer are not caught until the hunting party overtake them, and a hound discovering them must give signal to his hunters by shouting, or otherwise. The game develops woodcraft in a high degree, and is an excellent sport for Boy Scouts.

SOCK-ABOUT

This is another old boys' game. It is played against a wall or high board fence. The player who is "It" takes his position against the wall, facing it and stooping over. The other players line up back of a mark about twenty-five feet away. Each in turn throws a soft rubber ball at the player who must stand as a target. If he is hit, he must hold his position and allow the next player to throw at him. If he is missed, the thrower who misses must take his place and become the new target. The target may dodge the ball, by looking back between his legs, but he is not allowed to move his feet. The dodging must all be done by swaying his body to one side or another. The game produces much hilarity, and, if a soft ball is used, there is just enough sting to the hit to keep the target dodging in a lively fashion, and not enough to cause any real pain. It is great fun to punish one who has given you a successful hit, by a good return. The ball may be thrown in any fashion and as hard as the strength of the throwers will permit, but in no case can a ball be thrown from any place forward of a line drawn as the base, nor without the thrower first calling, "Ready!" At this signal, the target must take his position as a fair mark. A good thrower who is also quick-witted enough to guess how the target will dodge, and throw to meet his movement, may keep from being target a long while.

BARLEY BREAK

This game is a very old one — centuries old in fact. It used to be played at harvest time around the stacks in the cornfields. It can be played by from six to eighteen players. A long strip of ground is divided into three spaces about ten feet square. The central square is the barley field. In each of the three squares stand a couple of players. The couple owning the barley field — the couple in the center square — link arms. The couples in the other squares advance singly or together into the barley field to tramp the barley down by dancing around as much as they can without being caught by the owners of the barley field. The intruders do not link arms. When one of the intruders is caught he must remain inactive in the barley field until his partner is also caught. The owners of the barley field cannot step beyond its limits, nor can the intruders take refuge in any but their own field. When the two are caught they become warders of the barley field and exchange places with the previous couple, and any others who have been caught return to their own fields. The game becomes more interesting if the owners try not to confine their efforts to catching two members of the

same couples in succession. The intruders should advance far into the barley field, taunting the couple with linked arms by calling out "Barley Break." The owners can assist their object by pretending to catch one player and turning suddenly in the opposite direction to catch another couple. The square may be made larger provided there is enough space to do so, and the game becomes more exciting if the number of players is increased by putting three couples in the barley field and two or three couples in each intruding field. It is a very exciting game and one that is full of fun, as any catch game is likely to be.

SHINNY

This game resembles ice hockey, and is probably the older game of the two. The players are drawn up in parallel rows, opposite to one another. A neutral space between them is the path down which the puck must be driven. Two lines should be drawn to mark out this path. No player is allowed to cross the line behind which his side plays. In the old game, a player doing so was a legitimate target for the opposite side, who might whack his shins with their clubs. The game should not be played in this rough fashion, and a penalty of ten feet should be imposed instead. That is, the puck should be set back ten feet toward the offender's goal. The goals are at each end of the line, and the game is played by knocking the puck toward the goal. A goal counts one point. The game is very active, and develops skill and agility. The path down the middle should be three feet wide, and it may be made as long or short as is desired, and according to the number of players. The goals should be of the same width as the distance between the lines. When the puck is driven outside the lines of play, it must be brought back to the point where it crossed the line and put in play.

The puck is put in play at the beginning of the game at the center of the line, by being placed in the exact center, and at a given signal, one player from each side attempts to advance it toward his opponents' goal. The game is sometimes played without any lines, and with only two goals. Offside consists in being on the right-hand side of the puck by a player facing his own goal. In the rougher form of the game, such a player was severely punished by the shinny stick of his opponents playing a lively tune on his shins. The game is usually played in the fall of the year. It is not as popular as it was before the introduction of football, but when properly played is a fine active game.

HUNT THE FOX

Twenty or more players can join in this game. They stand in two parallel lines facing to the front with about five feet distance between each line. There should be considerable distance between each two players in a file so that the runners may have space to run between them. The head player of one line is a fox and the head player of the other line is the hunter. A signal is given at which the fox starts to run. He winds in and out of his own line until he reaches the end of it, when he turns and comes up the opposite file. The fox may wind in and out past every two players, or he may skip any number that he wishes. The hunter must follow in exactly the trail that the fox takes. If he should make a mistake he must go back to the point at which he missed the fox's trail. The fox must try to get back to the head of the second file without being caught. If he succeeds in doing so he is considered to have escaped, and he takes his place at the foot of his own file. In case the fox is caught by the hunter, he changes places with the hunter and the hunter

THE INTERNATIONAL HOCKEY MATCH AT BUCKINGHAM, ENGLAND

England beats Scotland 5 goals to 0.

must go to the foot of the fox's file and the fox can take the hunter's former place at the head of the hunter's file. The second player in the fox's file, who should move up to the front in order that the lines may be even, then becomes the fox for the next chase.

CATCH OF FISH

This game can be played by from ten to thirty players. It is suitable for playground or for gymnasium floor. The game is a strenuous one and is good exercise as well as excellent sport. Draw a line across each end of the space. The players are divided into two equal parties; one party stands just outside the line at one end and the other party stands just without the line at the other end. One side is the fish. The other side clasps hands to form a fish net. At a given signal both sides advance toward the center of the playground, which represents the stream. It is the object of the fish to swim to the opposite shore without being caught in the net. In order to do this they dart around the ends of the net. The net instantly encloses any fish that it catches. The fish so caught may not try to break apart the clasped hands forming the net, but can only make their escape through the opening where the two ends come together. In case the net breaks at any point by the hands becoming unclasped, the fish are allowed to escape and the players must go back to their respective goals and begin over again. The fish who were caught in the net are out of the game until all are caught. After the net has made a catch the sides exchange places; those of the fish that are left form a new net and the first net crosses to the other side and becomes fish. The two sides thus exchange places and rôles until all on one side are caught.

In the instance of a large number of players it is better to have two small nets because the dodging becomes livelier and the game is much more exciting in every way.

PRISONER'S BASE

The ground is divided into two equal parts, and a small corner is marked off in one corner of each part as the prison. The players are equally divided into two sides, each one having a part of the ground with a prison. They then venture into the enemy's territory and attempt to get into his prison without being tagged. If this is done the game is won. Any player, as soon as he crosses the line, may be tagged, and when tagged is taken to prison and must stay there until he is touched by one of the players of his own side, when both may attempt to return to their own territory without being tagged. If either of them is tagged while making this attempt, both must go to prison. If all the players of one side are captured, the game is won. A player may not voluntarily enter or "capture" the opponent's prison while there is a prisoner of his own side in it. But he must endeavor to rescue that prisoner as described above. It will be seen that the game may be won in either of two ways: (1) by "capturing" the enemy's prison; (2) by putting all the opposing players in prison.

BULL IN THE RING

Arrange the players in a circle, each holding the hands of those on either side of him so as to form a closed ring. One player is placed inside the ring. At a given signal he attempts to break out of the ring by parting the hands of any of the players. If he is successful, the two whose hands he has parted give chase and the one who catches him becomes the bull.

RUN, SHEEP, RUN

This is a game of hide and seek in which the players choose sides, one party becoming the hiders and the other the seekers. For each party a captain is chosen. A place is selected as the goal, or home. Near this the searching party with their captain remain while the hiding party go out and hide under the direction of their captain. When all are hidden, the captain of the hiding party returns to the home and tells the captain of the searching party. The captain of the searching party then directs his men how to make the search. The captain of the hiding party remains with the searching party and watches them. He shouts from time to time signals, that have been previously agreed upon, to his own men, warning them of danger and telling them how to move so as to

avoid the searchers and reach the goal, or home. No player may run for the goal without an order from his captain, which is given in the words, "Run, sheep, run." When one of the searchers spies a player of the hiding party, he informs his captain, who immediately shouts "Run, sheep, run." The party of which one player reaches the goal first wins. When the captain of the hiding party shouts to his men to run for the goal, the captain of the searching party may do so also, and the race for the goal decides the game.

STEAL STONES, AND ROLY POLY

This game resembles what is known as "Prisoner's Base," played on the ice in winter. Playing "Steal Stones," we divide into two sides and take our places on opposite sides of a long line. At about a dozen paces from the line, on each side, we put at equidistant points ten stones and draw around them circles about three or four feet in diameter. The object now is to steal the other side's stones, and at the same time to prevent them from stealing yours. The moment a person sets his foot on the wrong side of the line he can be touched and taken prisoner. In that case he has to stand in the circle where the enemy's stones are kept until he is touched by some member of his own side. When released he can take back one stone, but the one releasing him cannot take back a stone.

But often it happens that you get by your opponents without being tagged, and the moment your foot or your hand touches a stone in the enemy's circle you are free from all chance of being taken prisoner and can walk quietly and proudly back to your own side with your captured stone in your hand. Meanwhile you must be keeping watch lest some of your own stones be purloined, and when there are three or four players on a side it is well to depute one of them to guard the stones, who shall not try himself to capture stones from the enemy. The guard is not allowed to stand inside the ring. His function becomes all the more important when he has several prisoners under his keeping. The object of the game is to get all the stones away from the enemy and to reclaim all your prisoners. As in real war, an exchange of prisoners can be arranged on mutually satisfactory terms.

Another popular game is "Roly Poly." Holes are dug in the earth about five inches deep and large enough around to hold an ordinary rubber ball. A hole is assigned to each player. Then one is appointed to stand at a line drawn about twelve feet from the holes and roll the ball. The one into whose hole the ball finally drops must quickly seize it and not taking more than three long steps from the hole try to hit some other player. Of course those into whose hole the ball has not gone run with all their might to escape being hit. If you are hit, a little stone is deposited in your hole. But if the one throwing the ball fails to hit anyone, the little stone is put into his hole and the one who first collects six stones has to pay some kind of forfeit or undergo some penalty, like presenting his back to be gently fired at by each of the other players in turn.

INDOOR GAMES FOR ODD MOMENTS

WHEN it is rainy outside, or when other amusements have given out in the evening, there are several "stunts" that it is good fun to try. One that will stump almost everybody is trying to stand with heels and body against the wall and then touch the toes with the finger-tips. It is hard enough for many people who are not especially supple to touch the toes anyway. Indeed, that is a good preliminary stunt, to see how many can bend so far as to touch their knuckles to the ground, or even the flat of their palms. But when you are back to the wall, with your heels close pressed to it, it is almost impossible to bend more than a very little way without being thrown off balance. Those who find that they cannot do the trick may console themselves by remembering that knack or skill counts for almost nothing, the

main requirement for success being an unusually long foot. Keep this last fact a secret when you set this game agoing.

THE SINGLE-ARM PUSH-UP

Everyone of course knows how to do "push-ups" from the floor, lying face down and raising one's whole weight with just the straightening of the arms. The question is, Who can do the greatest number? Six or eight or ten are fair performances; those who can do twenty or more are in a class by themselves. In a real test the body should be held straight, without bending at the hips; the arms should be fully straightened each time, and the chest should just touch the floor lightly, neither missing it nor resting heavily upon it.

The ordinary push-up is not especially difficult; but the single-arm push-up is. Hardly one boy in three hundred can do this trick, which requires both strength and skill. The idea is to take position as if at the top of an ordinary push-up, rest the weight all on the right arm, crooking the left behind the back, bend the right arm until you can with your lips seize a match held upright between thumb and first finger, and finally straighten the right arm again. This sounds easy and looks easy; but if you can try it the first time or even the tenth time without falling flat when you are just about to secure the match — well, you are the one in three hundred. The way to learn is to work at first on a steeply sloping walk or on a stairway, so that when your body is at its lowest it will still be slanting enough to take some weight off from the straining right arm. Besides, begin with a long grass-stem or piece of folded paper. Practicing in this manner you can see for yourself how to swing the weight of the body in such a way as to give the right arm least work. You can then shorten the object to be seized, and practice on the level. Practice counts for fully as much as sturdy muscles; and once you have learned the knack you can put to shame boys a great deal stronger than you are.

Another good floor-trick is to sit on the floor with the arms by the sides and the hands palm down on the floor and then throw all the weight on the hands, double up the back and knees, and bring the feet backward till they can be shot through between the hands and to the rear without touching the floor. When the legs have been straightened out to the rear, the knees and back should be doubled again and the feet and legs shot forward into their original position. An exercise much like this consists of jumping over a broom-handle held between the fingers, and then jumping back again. A broom-handle, by the way, is a mighty useful thing to have around, especially if it is cut about three feet long, and the cut end well rounded. Numbers of things can be done with the broom-handle's aid.

HUCKLE, BUCKLE, BEANSTALK

This is an indoor game and consists in hiding some small object such as a thimble, ring, large button, etc. All leave the room but one, who hides the object in such a way that it can be seen without moving any other object, but is difficult to discover. For example, it may be placed on top of a picture frame, in a dark corner of the room, on the floor, or against some object of nearly the same color. When it is hidden the players are called in and begin the hunt. As soon as a player discovers it, he does not let the others know where it is, but sits down and says "Huckle, buckle, beanstalk." When all of the players have found it, the one finding it first hides it for a new trial.

BROOMSTICK GAMES

An old, familiar game with a broomstick is to sit down opposite your opponent, brace your feet against his, grasp the stick as he is grasping it, and try to pull harder than he can. If you pull harder, he will have to let go or be pulled over. A game less familiar is for two to stand opposite each other, the broomstick grasped between, each one trying to swing or pull or thrust the stick in such a way as to throw his adversary off balance. To get the right distance, stand so that you can rest your hands on your adversary's shoulders. At the outset the stick is held down at arm's length, your hands alternating with his. One of the two is declared victor as soon as the other is forced to shift his footing.

A first-rate test of strength of grip is found in a third stick game. Grasp the stick as you did in the last case, but stand as close to your opponent as you can, and hold the stick high in the air. When you both have a tight hold, bring the stick gradually down, stepping away as it descends. Don't exert your arms to force the stick either up or down, but put all your effort into the grip. It is plain that the stick must turn in one pair of hands or the other. If you can hold it from turning in yours, you have won.

ODD OR EVEN

A lively game that will keep a whole circle watching and laughing may be played by two lads seated opposite each other on the floor, each armed with a comparatively harmless bludgeon made of a rolled-up newspaper. Each holds his left hand behind his back and then brings it forward with one, two, or three fingers held up. Each has to decide how many fingers to hold up without knowing how many the other will show, since they both move at the same time, by spoken signal, or by a kind of understanding that soon arises between two players. Now if the total number of fingers held up is odd — for example, two on one side, one on the other — the one who has "chosen odd" at the beginning has a right to whack his opponent over the head. But if the fingers add up even — as one and one, or one and three — "Even" has a whack at "Odd."

INDIAN WRESTLING

About the most vigorous and athletic game that may be played in a confined space is Indian wrestling, or hand-wrestling. To wrestle in this fashion, stand facing your opponent, your right foot forward and touching his right foot, similarly placed. Grasp his hand, allowing him as much hold on your hand as you have on his. At the starting signal, best given by an umpire who watches to see that the clasped hands are directly over the center and then says "Go" or slaps your hands lightly, try to throw your opponent off balance by pulling, pushing, or swinging his hand — without yourself losing balance. A player is considered off balance as soon as the ball of either foot moves from its place. There are many artful dodges that make this a lively and interesting contest. Try at the outset to push the adversary's hand leftward and backward, so that his hand is down at his right side. Then, when you get his hand back as far as you can by leaning forward and pushing hard, draw his hand leftward again, and usually he will have to tumble. Or, if he throws his weight over the other way, so that you cannot unbalance him to the left, swing his hand suddenly to the right, and he will fall as he is leaning. Another good throw is accomplished by pushing your opponent's hand straight back until you are pressing it against his lower ribs. If you can once get the hand there, he is yours; if however he foresees your plan, he can prevent your getting his hand against his body by pulling it left or right. Vary your tactics once in a while by turning your body around sharply to the left, at the same time raising the opponent's hand and getting it over your right shoulder. Then bend and pull directly to the rear, and you are a sure victor. To work this surprising trick you must be quick as a cat; for if your adversary sees what you are about he can hold back and foil you. Suppose now that your mate tries these very throws on you. You must be ready with guards. If he gets your hand back and at your right side, lean forward and put your head against his shoulder. (The game can be played without any touching of the head, if this be the rule agreed upon in advance.) With your head against his shoulder you can prevent his throwing you to the right, and you may be able to force him over. If he starts to get your hand in position against your ribs, so that he may push you over, pull his hand suddenly up and put it over your shoulder as you turn to the left, according to the plan already explained. Then you have it on him. If he tries to get your hand over his shoulder, either pull straight back and down, or else let your hand give, and when it is just about to be crooked over his shoulder swing leftward with all your might. So you see there is a guard for every attack, and the game goes to the most alert. Indian wrestling is full of fun, brings every muscle into play, and incidentally it gives the small but skillful player a chance to beat a bulkier but less agile one.

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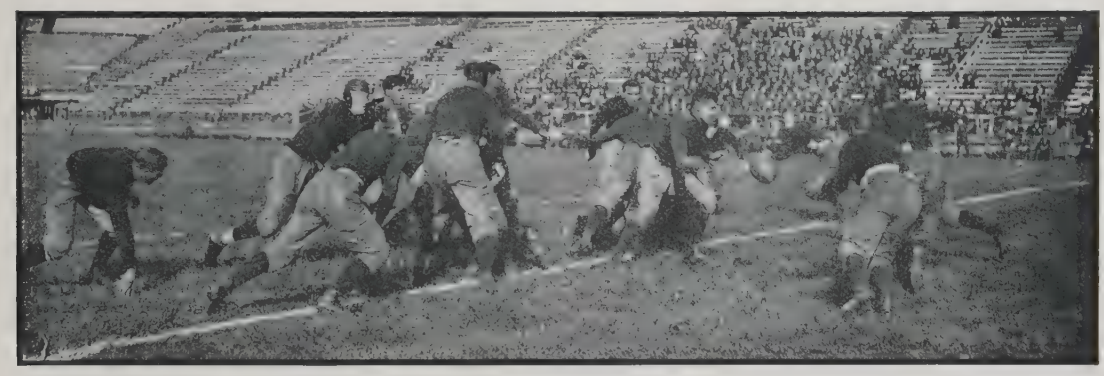
TOP: A TYPICAL MODERN SCRIMMAGE. BOTTOM: AN ONSIDE KICK, FORMERLY USED IN DEVELOPING THE MODERN GAME



FIELD SPORTS

FOOTBALL, SOCCER, BASKETBALL, LACROSSE, OLYMPIC GAMES, TRACK ATHLETICS, HOW TO TRAIN, AND BASEBALL

FOOTBALL

INTERCOLLEGIATE football, or American Rugby, is a modification of the game played in England and named from the famous public school of Rugby, where it originated. A tablet on the wall of Rugby school perpetuates the name of Webb Ellis, who originated the running or Rugby game. Students from Harvard College who learned the game on a visit to Canada introduced it into the United States. They persuaded Yale students to take it up, and for a number of years the annual match between Yale and Harvard was about the only Rugby football played in the United States. Princeton, however, soon had a team in the field, and took a full share of football honors. Within ten years the game became universal among the eastern colleges, and by 1890 it was taken up by high schools also, and in the west as well as in the east. It is now played by boys and youths in almost every town in the country.

American Rugby is a game of strength as well as of skill. It is also a test of courage and endurance. A really fine football player must be a fine type of boy — strong, plucky, alert, thoughtful, even-tempered. It is partly because the game develops these qualities that it is so popular, and that great players are looked on as heroes.

The American game differs from the old English Rugby, and the difference grows wider each year. The introduction of the forward pass and the onside kick have violated one of the most vital principles of the English game — that of offside and onside.

THE ENGLISH GAME

It will not be necessary here to describe the English game in detail, as it is far more likely that the American game will penetrate England than that the English game will take the place of ours. The English game begins with a "scrummage," or "scrum." The word is commonly called "scrimmage" in this country. The ball is placed on the ground and the players gather about it, pushing and kicking at the ball until it emerges from the mass and some player can seize it for a run or kick. When he is tackled, there is a new "down" and a new "scrummage." A player is onside only when he is between the ball and his own goal, and only when he is onside can he touch the ball or tackle a player. This is the invariable and strict rule of English Rugby. It is important also in American Rugby, but is violated by the two plays above mentioned. The English game results in more running and kicking than the American game, but is not nearly so capable of strategy and headwork. It is, nevertheless,

a fine, hearty, manly game, developing the same qualities as the American game. A very good English player would make a good end or back on an American team.

THE AMERICAN RUGBY

In America, the "scrimmage" was quickly developed into something more scientific than in the English game. The players were lined up in order; the ball, which was given to the side holding it at the last down, was put in play at a given signal, by a player stationed for the purpose. This development of the game soon led to a serious difficulty. One side might in this way keep possession of the ball for an entire half of the game, and yet their play be inferior to that of the opposing team. This difficulty led to the rule that the side holding the ball must advance it five yards or lose twenty yards in three downs, or, failing to do so, yield the ball to their opponents. The game as thus played developed what was known as "mass plays" — that is, the attacking side, or side with the ball, would gather its men in a mass and hurl their combined weight at the weakest spot in the opposing line.

This resulted in so many serious injuries, and even deaths, that again the rules of the game were modified. The "mass play" was forbidden, but, in order to give some compensation to the attacking side for this loss, the privilege of throwing the ball, or "passing" it forward toward the opponent's goal, was given, and also the privilege of recovering a kicked ball after it had touched the ground. At the same time, in order still further to necessitate free kicking and open plays, the distance to be covered in a series of downs was increased from five to ten yards. Later the number of attempts or "downs" allowed in making this distance was increased to four.

These arrangements, it is believed, result in a very evenly balanced game, so that whatever advantage either side may possess arises not from the rules, but from their own skill, training, and strength. It is also believed that the game is now rendered reasonably safe from serious injuries. Of course it is not a game for persons not in athletic training and condition.

LAYING OUT A FOOTBALL FIELD

The rules require that the field be marked out into spaces by lines crossing it five yards apart. The ground for a regulation field should be four hundred feet long and two hundred feet wide. The actual playing ground is three hundred and sixty feet long by one hundred and sixty feet wide, but a margin is needed all around, for safety. The ground should be marked out by a lime line and crossed by five-yard lines. This gives it the appearance of a huge gridiron, which is often applied as a nickname to the field. In the middle of each end a goal is erected. This is composed of two uprights and a crossbar. The uprights should be eighteen feet six inches apart and the horizontal crossbar ten feet from the ground. The uprights should extend several feet above the crossbar, ten feet in a regulation goal. Although this constitutes a regulation field, it is by no means necessary to have so much in order to enjoy a scrub game of football. Any level piece of ground will answer, and goal-posts and markings may be in part omitted or understood. It is not possible, however, without goals, to play the entire scoring game. On whatever size of field, bounds should be established well inside of any fences or posts, as all such obstacles are liable to cause serious injuries in the excitement of the game.

THE OUTFIT

No outfit is absolutely needed but a suitable ball. The ball used is oval. It is made of rubber and protected by a leather cover. The regulation ball is known as the Spalding No. 7. As the game is a rough one, the players should wear stout clothing and shoes. Regular football shoes have leather cleats on the soles to prevent slipping. Metal cleats are not allowed, as they might cause injury to the players. Many devices are sold to protect the players from injuries. Shoulder-pads and knee-pads are the most important, as it is dangerous to tackle strongly without some such protection. Next in importance come the padded trousers, and, lastly, the various styles of head-guards. Many players refuse to wear these last, however.

THE TEAM AND POSITIONS

The team consists of eleven players. The game may easily be played with a smaller number, but it is not feasible to play Rugby with less than eight players on a side.

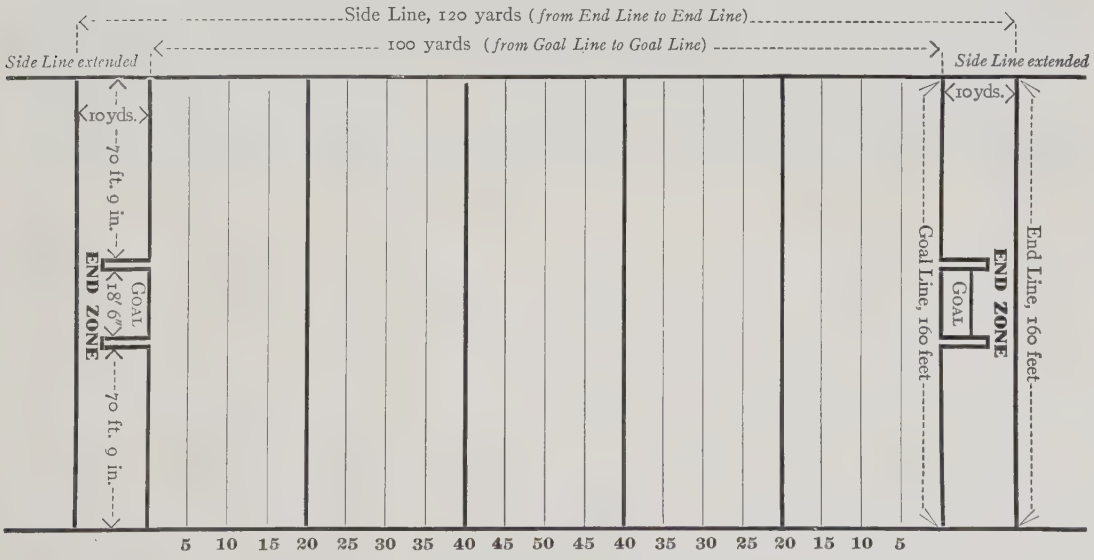
Seven of the players are called forwards, or rushers. They take their position, in a scrimmage, on the rush line, which forms on each side of the ball. The man whose duty it is to hold the ball and put it in play by snapping it back is called the "center"; the two men on either side of him are called "guards"; still outside of them, on either side, are the "tackles"; and at the two extremities of the line the two "ends." The other four players take their positions behind the line and are called "backs" — the quarter back, two half backs, and a full back. We have, then, a center, right and left guards, right and left tackles, right and left ends, the quarter back, the two half backs, and a full back. The forwards, or rush line, form a barrier against the opposing players. The backs seek to advance the ball by kicking or running, when the ball is in their possession, and to assist the line in defense when the ball is in the possession of the opponents. The particular duties of each of these players will be noticed later.

PLAYING THE GAME

A match game is played under the strictest supervision by a full corps of officers. These are a referee, an umpire, a linesman, who is time keeper, and two assistant linesmen. While each of these officers has specific duties to perform, any of them may call attention to an illegal play or action. For a boys' game a single umpire is sufficient.

Play is begun after tossing a coin for choice of goals or of kick-off, by the ball being placed on the forty-yard line of the side kicking off and kicked by one side to any point toward the opponents' goal. The team then follows the ball down the field, and endeavors to prevent the opponents from running the kick back. This duty devolves particularly upon the ends, who are chosen for their quickness and speed. But the other members of the team assist them. It is not lawful to run down ahead of the ball. To do so would put the player between the ball and his opponents' goal, which is offside, and for this a penalty will be imposed by the

DIAGRAM OF FIELD OF PLAY


Side Line, 120 yards (from End Line to End Line)
100 yards (from Goal Line to Goal Line)
Side Line extended
Side Line extended
10 yds.
10 yds.
70 ft. 9 in.
18' 6"
70 ft. 9 in.
GOAL
END ZONE
GOAL
END ZONE
Goal Line, 160 feet
End Line, 160 feet
5 10 15 20 25 30 35 40 45 50 45 40 35 30 25 20 15 10 5

The field of play is a parallelogram bounded by the side lines and goal lines and thus measuring 300 feet by 160 feet.

umpire. Neither is it lawful to attempt to recover the ball until it has touched a player of the opposing team, nor to interfere with its being caught.

If the ball is "muffed," that is, touched but not caught, the side kicking off may attempt to get possession of it. Immediately after it is caught, the player catching it may be tackled and thrown to prevent his running.

In the scrimmage, seven men of each team must be on the line; all the others remain behind it. The quarter back, who runs the team, standing a little back of the center, calls the signals that notify his team mates what play is to be undertaken. At a prearranged point in the signals, the ball is "snapped" back to the quarter back or any one of the backs. The player receiving it attempts to advance it toward the

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BUCKING THE MACHINE

As soon as he says "down," or the referee blows his whistle, the play stops and the ball is down at that point. In tackling, it is not lawful to seize the runner below the knees, nor is it lawful to make a "flying tackle," that is, to jump at the runner with both feet off the ground.

The ball being declared down, the two teams line up for a scrimmage at that point. The ball is given to the center of the team who has gained possession of it after the kick-off, and has possession at the time of the down. opponents' goal according to the signals that have been given. The opponents, in the meanwhile, the moment the ball is in play, lunge forward and attempt to break through the line and break up the play, block a kick, or tackle a runner, as the case may be. In this manner the playing continues, until one side or the other scores by kicking a goal from the field or rushing the ball past their opponents' goal line. As soon as a score is made, the ball is brought back to the forty-yard line and a new kick-off is made, this time by the side scored

LINE CHARGING AFTER BALL HAS BEEN SNAPPED

against. The playing lasts for any time agreed upon in advance. A full match game, under the present rules, lasts one hour of actual playing, all the time in which the ball is not in play being taken out. The time is divided into two "halves" with fifteen minutes' intermission between them, and each half is divided into two periods with one minute rest between them. During the intermission between the halves, the players may leave the field, but during the rest between periods a player is not allowed to leave the field, nor can anyone, except a single caretaker for each side, go on the field.

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THE START OF AN END RUN

THE POSITIONS

To begin with the heavy men: The center is a position requiring great firmness of footing and cool, accurate passing of the ball. These qualities are usually found united to weight. The center, accordingly, is usually the heaviest man on the team. As soon as he lifts the ball to pass it, the watchful opponents are certain to be down on the line attempting to break through. If he is bowled over at the first onslaught, the play is pretty sure to be stopped before the runner can start. On an attempt at any kind of kick it is still more important that he be able to hold the line back, for it takes more time to get off a kick than a run. The play of center is by no means confined to this. He can help to open holes for the runner in the opposing line. Speed is not expected of him, but a certain alert quickness is very important in getting the ball into play before the opposing team can be prepared for it. Other things being equal, the team with the quickest center has a great advantage.

The guards, right and left, should also be

heavy men, but with them speed and strength are still more important than with the center. The guards, being relieved of the duty of passing the ball, give their undivided attention to the opposing line, blocking its attempts to break through, and opening up holes for their own runners. Tall, rangy men of weight and muscle are chosen for this position.

The full back, to leave the rush line for a moment, is also chosen for a combination of weight and speed. Between two candidates for this position, that one should be chosen who has the most stubborn courage and the greatest speed. But too light a full back is a disadvantage, for the full back is called upon to supply the last ditch defense. He not only is ready to stop plays that break through the line, but bolsters up, at times, the line itself. He must be a sure catcher of punts, and a deadly tackler. In short, the full back must be an all-round player.

We next come to consider the position of tackle. There are two tackles, a right and left. Many experts regard this as the ideal position for a great player. It is through tackle that the majority of line plunges are made. The tackle, therefore, must be able to stand an immense amount of hammering. A team that is short of substitutes should have substitutes for this position. Many a game has been lost by playing a tired-out tackle. The great majority of formation plays have a tendency to separate the line at this point, and the tackle is very likely to be called upon to defend a considerable breach. Tackle and half back should play well together. More team work

A TOUCHDOWN

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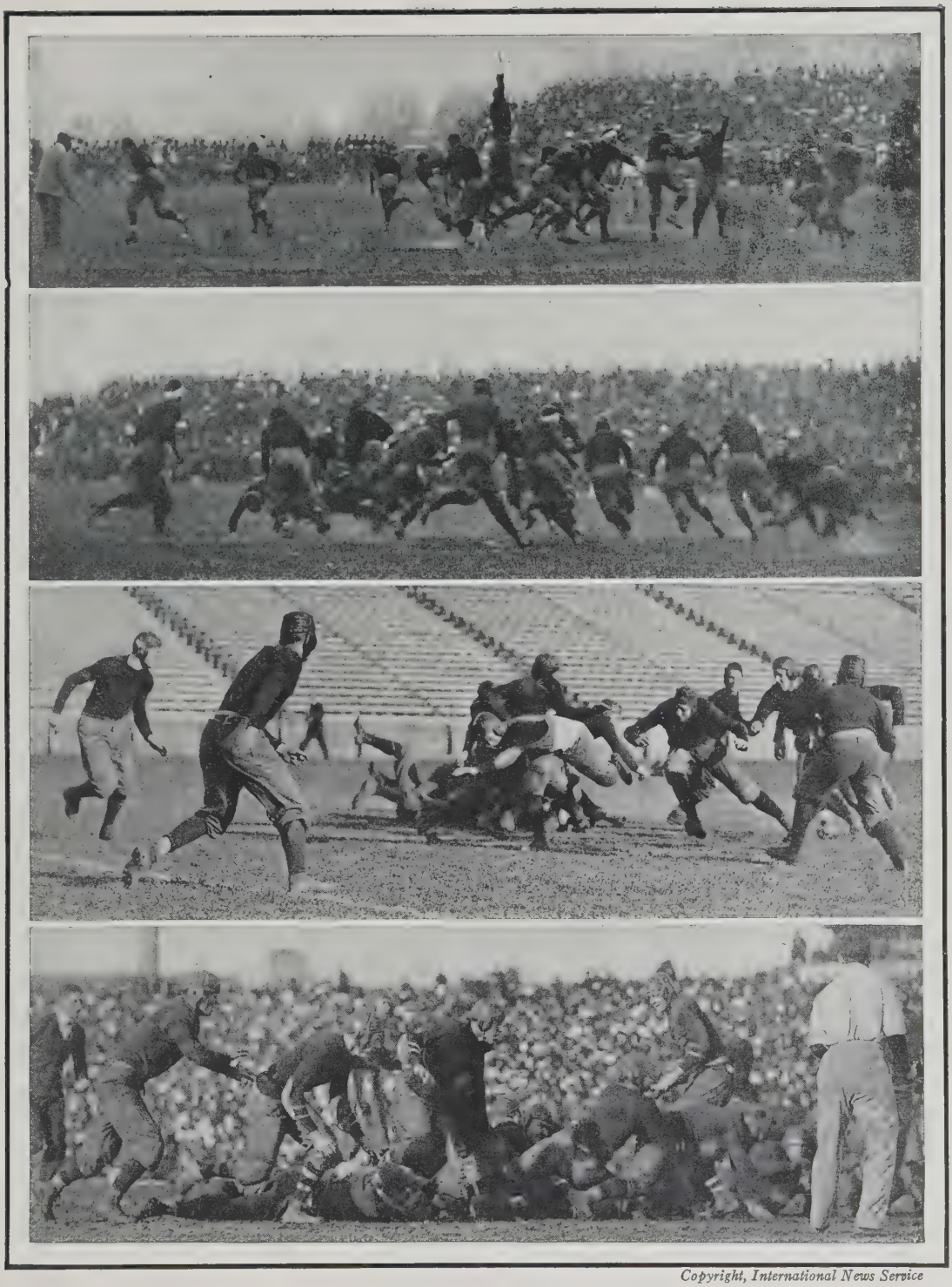

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A PUNT; AN END RUN; FAST INTERFERENCE; THROUGH THE LINE

depends upon the coöperation of these two positions than of any other combination. In defense the half backs rush to the aid of the tackles. In offense the tackle opens the best hole for the runner. A tackle that can outplay the opposing tackle lays the foundation for a sure win by his team. The tackle needs to be quicker than the guard or center. He aids the ends in getting down the field under punts, and preventing run-backs. He should be able to stop his man with absolute certainty by tackling. The position calls for a fighting spirit and football sense.

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A PLACE KICK

The ends: There are two of them, right and left. These men play more independently than the rest of the line. They require more speed and less weight. It will be their part to stop all plays that attempt to circle the end. They

should get down the field quickly under punts and stop all run-backs. They should assist their own runner by forming a protection for him from flanking attacks, and they should never miss their man on a tackle. Of late the duty of receiving a forward pass, an exceedingly difficult feat, has been added to the duties of the end. It is one of the most heavily loaded positions on the field. The duties of the end are almost innumerable. He has a part in every play, and is very apt to receive the blame when things go wrong. At the same time the position is held in high esteem, and his plays are more spectacular than those of any other of the linesmen.

The backs: The term "backs" refers to the four men playing behind the line of scrimmage, and includes the quarter back, the two half backs, and the full back.

The four backs are closely associated in everything they do. On the offense they alternate in carrying the ball and helping each other by means of interference. On the defense they reënforce the rush line and are relied upon to stop all advances of opponents not stopped by the rush line.

There are five essentials for the most effective back-field playing — fight, spirit, speed, poise, and brains. The mental qualifications are, if anything, the more important. On the defense essentials are continual watching of the opposing quarter back, backs, and ends, and, when opportunity offers, desperate tackling.

A back should keep moving, so as never to let his opponent know exactly in what attitude to expect to find him. When he has made up his mind which way a play is developing, move to that spot as rapidly as possible; but he should not be drawn away from his position until he is sure he knows what is happening. If the back is not sure, he had better stay where he is.

On the offense the two most vital points for the backs are interference and speed. Of these, interference is the more important, as any back can gain ground if his opponents have been put out of the play, and no back can consistently gain ground without this aid from his team mates. It is, therefore, necessary for every man on the offense to put some one opponent out of the play so as to prevent him from interfering with the man who is advancing the ball for his side. Speed is of great value. Fast running behind the line of scrimmage will often make up for inferior line play, and speed often makes up for many misplays and mistakes. A half back should always endeavor to strike the line of scrimmage at full speed, and then use all possible energy to keep going. Speed gives the man with the ball an enormous advantage; it enables him to get away from opponents, and, what is equally important, it permits him to reserve his ability in dodging until he is cornered or tired. A back must always be "on his toes," especially when starting. A fraction of a second lost in starting will frequently prevent the success of a play. For instance, supposing two backs are running at an end rush at the same time for the purpose of putting him out of the play and allowing the runner for whom they are interfering to advance with the ball. If one player reaches the end a little before the other, it enables the end to put his hands on him and be ready for the other interferer. If, however, both interferers reach the end at the same time, it is impossible for the end to take care of both of them and watch the play, so that one or the other of the interferers will be able to put him out. For this reason, then, timing is of great importance. In order to properly put a man out of the play it is absolutely necessary to break through the resistance offered by his outstretched hands and reach his body, not only because it is easier to throw him to the ground when his body is reached, but because the interferer is then so close to his man that the opponent cannot get clear from the interferer to reach the man who is running with the ball.

The sure catching of kicks in the back field is one of the most important duties imposed upon the backs on the defense, and the back that is selected to play in the back field should be the one that can be best relied upon to catch and hold the opponents' kicks. Most men have a style of their own in catching, even though it may closely resemble the method of another man. Usually if a player feels sure of catching the ball it is better to let him use his own method. If he does not feel sure, he should be taught to catch the ball on the chest, with the body bent slightly back of the perpendicular.

THE HARVARD STADIUM AS IT LOOKS WHEN CROWDED

The work resembles the work of a first-class outfielder in baseball in so far as it is necessary to judge with great accuracy where the ball will land. As soon as the ball is caught, it should be firmly grasped, with the arm wrapped around it, and the back should then start as fast as possible toward the opponents' goal line. In open-field running opponents may be prevented from tackling by the use of the free arm in what is called "straight-arm" work, by dodging, and by change of speed.

In general, football is particularly a game of opportunities. Always be on the lookout to seize an opportunity when it offers. Every play should be selected with the score, the amount of time left to play, the strength and direction of the wind, and the weak points of the opponents in mind.

The quarter back "runs the team." That is, he calls the signals and selects the play, under the captain's authority. A good captain seldom, however, interferes with a quarter back's selection. As the best team can do nothing without coöperation and well-directed efforts, the success of the team depends upon having a good quarter back. A good quarter back cannot make a team or alone win a game, but a poor quarter back can more easily lose a game than any other player. Uncertainty in giving signals, hesitation in passing, and bad judgment in choosing plays are the costly errors of the quarter back which lose games. The quarter back must have the confidence of the team. They must respond to his call for this or that play with unquestioning faith in its efficacy and wisdom and their own ability to accomplish. To arouse this spirit in the team is a part of the quarter back's work. His is the general's position. Because he is so loaded with these duties, he is usually relieved from much of the actual hard playing. He may therefore be a much lighter man than any other on the team. Some of the most successful quarter backs have been very small men. There is another reason for choosing a light, quick man for the position. There is often need of an elusive, dodging runner, especially in running back the kick-off and punts. A quarter back is often selected for his ability in these directions. The quarter back is allowed to run with the ball, and occasionally does so with great success, selecting a moment when some chance

TO ITS LIMIT FOR THE GREAT HARVARD-YALE GAME

occurs affording him a sudden opening through which his quickness will enable him to dodge.

A GAME OF DISCIPLINE AND STRATEGY

While these qualities, as outlined above for the various positions, are the ones which particularly adapt a player for this or that position, no one is fit for football who will not submit to rigid discipline. This is the spirit of the American game. A player who takes the game in his own hands, and refuses to play as directed, is of no use. A player who continually disobeys rules invokes penalties that may lose the game as well as disgrace his team. No single man is able, however strong and gifted, to play alone against eleven men. It is only by all working together that anything can be accomplished. The player who will not submit to this is worse than useless. His occasional brilliant plays will be more than offset by the weakness in team work which his pride and obstinacy cause. Let the football player, like the soldier, learn that obedience is the first requisite.

Football has always been a game of strategy, of planning, of the development of a consistent system. At the beginning of the season the captain and his mates and their advisers meet and lay their plans. A style of play is adopted that is suited to the available men, and to the game that is likely to be played by the opponents, or that fits some new ruling, giving added possibilities to the game.

HINTS FOR BOYS' TEAMS

Football sense is best acquired in early life. The greatest advantage which a college in one district has over a college in some other district, is the material which is available for the teams. Where football is played in the schools and on the playgrounds, there will be many who have developed a keen sense of the game. But some definite advice in regard to playing Rugby football may not come amiss.

First, never play a team that contains even one player much beyond the average weight of your own team. Injuries in play between fairly balanced teams are very rare, but to send a light boy to tackle one much heavier than himself, is to face a very large chance of serious injury.

This should enter into the sportsmanship of the game. It should come to be considered a disgrace to attempt to win games among young boys by bringing one big fellow into the team. No apparent offset, such as getting along with a smaller number of players, should be allowed to alter the rule. Such an offset does not alter the essential evil of the situation.

Second, in schoolboy games, seek to develop skill rather than weight, speed rather than force. Avoid everything approaching mass plays. Seek your advantage by skillful combinations and formations run off with great speed. In devising these formations, it should be remembered that, while in football as played by older players, all such formations are based on the theory that the line will hold for at least a few seconds, no such supposition can be made in boys' games. It is very rare that a boys' line will hold at all. Formations should be made with that fact in view. The ball should be passed well back of the line and end runs should figure largely in the schemes for advancing the ball by rushing. In boys' teams the one having the best quarter back and ends will win, nine times out of ten. Punts are very apt to result in a wild scramble and pot luck for everyone.

Third, the signals must be very simple and easily understood, and not too numerous. Those involving calculations are not good, for some of the team are certain to make the calculation wrong. It is far more important that the play run off quickly and smoothly than that the opposing side should be deceived. It is also more important that the moment of starting the play be concealed by the signals than that play itself be blind. To "get the jump" on the opposing team is a very great advantage. The most common starting signal is given by the team understanding that the play is to be made on the repetition of a first, second, or third number of a series. For instance, if the first signal given is 22–31–9, and it is understood that the play is to start on the repetition of the second number, any number of meaningless numbers can be called while the team is listening only for "31." This method has the further advantage of giving the team time to prepare mentally for the coming play. The actual signal giving the play should not involve more than three numbers—one to indicate the player who is to make the play, one to tell where he is to go, and one to tell what formation is to support him. Thus our signal of "22–31–9" might mean, "Left back take ball through right tackle with right back and quarter forming interference."

The signals of the plays should depend upon some easily understood principle, and not on the actual numbers used. For instance, all full decimals, as 10, 20, 30, etc., may mean right half back; all "fives," as 5, 25, 35, etc., may mean left half back, etc. It is very easy to arrange a system that will be quickly understood by the team and at the same time be very blind to the opposing team. Reversing of numbers forms a good basis for a set of signals, as it is very quickly recognized, as "34 — 43." Odd and even and their alternations may form a good basis. Remember that the more absolutely simple the system is, the better. It is easy to becloud it to the opposing team by the introduction of meaningless numbers. Fake signals are often used when it is discovered that the opposing team is trying to get at the signal system. For example, if a meaningless number, like "45," is associated with the same play twice, the opposing team is quite sure to connect it with that play. If it is then used in connection with an entirely different play, but one having a similar formation in appearance, the opponent is almost certain to be misled. An experience or two of this kind will soon set your opponents to playing football and letting your signal system alone.

In your own game, when playing on the defensive, pay no attention to the signals of the opposition. Use your eyes. Detect their first movement and acquire the ability to see what it means. Attempting to steal signals is very poor play, as well as unsportsmanlike conduct. Any team attempting it can be easily outplayed.

Fourth, training for boys should consist in none of the hard things done by older teams. It is only injurious to young players to imitate these methods. Even high school boys should not be put through the familiar drills of the college gridiron. Much passing of the ball should be done, and made as lively as possible. Running with the ball behind interference should also be practiced. Most boys find it exceedingly difficult to do this. They run independently, and leave their interference to itself.

That is not good football. A good runner learns to protect himself behind his interference. If your interference is bad, the fault of the misplay is not yours; but if your habit of leaving your interference too soon is the cause of failure, the fault is yours. Team play is what wins. The exact moment at which to forget your interference and go it alone cannot be taught by rules. It must come by experience. By keeping with your interference as long as possible, you force them to do their share of the work. The common call of the coach, or captain, in practice should be, "Get into that interference." This is the secret of good running. Any fast runner, when he is given a good start, can go a good distance without being downed. It is the work of the interference to give him that start. A good interference should be fast, as it is useless if it prevents the runner from getting a start. That is its whole object, failing in which, it fails entirely.

Teach the interference to look out for holes and to travel fast. They should pay no attention to their own runner. It is his duty to take advantage of the openings that they make and the protection which they form.

It is good also to practice punting, although a boys' game must be a running game, very many punts, as has been said, resulting in a helter-skelter. A very good plan is for the captain or coach to take a position above his team, on the limb of a tree, if no other advantage offers. In this way he can see what every player is doing. Then let him point out faults, not roughly, but in a kindly manner, to teach and not to find fault.

Lastly, be willing to be taught. Remember that anyone standing by and watching can detect faults in your play and teach you something. You could do the same for him. You cannot see yourself. That is why you use and need coaching. If everyone could "see himself as others see him," there would be less need of coaching. What your team needs is as good a spirit to learn as possible. Some coaches are better than others, but any coach can teach a team that has the right spirit. If no regular coach is available, take turns about acting as coach, for the coach's great advantage lies in his outside position, from which he can easily detect the faults of play. One college, having an unlimited amount of money to spend, made use of motion photographs of their own games to teach their players. When the players saw on the screen pictures of their plays showing so clearly their mistakes, they needed little teaching to enable them to avoid those faults in the future. One word more to our youthful players. Never fight the decision of the referee, no matter how unfair it may seem to be. Accept the chances of the game with a good spirit and do your best.

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A TYPICAL COLLEGE CROWD WATCHING A FOOTBALL GAME

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A SHARP TUSSLE BETWEEN OPPONENTS

The Red makes a flying leap for the ball, trying to bunt it with shoulder or head, since he cannot use his hands. The Blues are striving to push him back and gain the ball.

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THE GOAL-KEEPER RUNS OUT TO SAVE HIS GOAL

ASSOCIATION FOOTBALL OR "SOCCER"

FOOTBALL is one of the games which have enemies. The objection to football has always been that it is rough and dangerous. This appeared most plainly in the old days, when whole English towns used to play against each other, adopting the tactics, so one imagines, of that proverbial fighting man, who, disregarding science altogether, hits a head whenever he sees it. The game was rough enough in its early days to draw forth not only the criticisms of many common people, but even the edicts of kings against it. And association football, or, as it is commonly called, "soccer," was one of the results of this feeling against the game. For soccer was developed as an improved form of football by certain of those who thought the old game too rough for good sport. In 1863 representatives of various schools in England met to revise the football rules, but found themselves so much at odds about the game that they established two sets of rules, one for Rugby, which retained certain of the strenuous features of the older game, and one for association, from which these features were eliminated.

AS SEEN FROM THE GRANDSTAND

We need not take sides in this discussion of the merits of the two games, nor compare them with "American football," for we are just interested in saying something in praise of soccer without dispraising the others. Anyone who has seen soccer played will admit that

it is lively and vigorous and interesting, a game that demands muscle, endurance, and, above all, skill. It is a pretty game to watch. You see men or boys in jerseys and running trunks racing up and down the field. One man has the ball, and, never touching it with his hands, he keeps it running along ahead of him by means of slight taps with his feet until a chance comes to kick for a goal. Or perhaps the opposing side is after him hard and one of the opposing players manages to get within reach of the ball, stop it, and start it back down the field. Then all turn and follow. Occasionally the ball goes up in the air, and when it comes down some player bunts it with his head, sending it off again as accurately as it could be thrown or kicked. Sometimes one player is able by skillful dodging to "dribble" or "baby" the ball all the length of the field through almost the whole opposing team. Sometimes the ball is changing every few seconds from one player's possession to another's. Sometimes it skims along in short passes between the center forward and the "wings"; again it shoots up in the air on a good kick for thirty or forty yards. Sometimes the ball disappears altogether in a scrimmage of wriggling legs and waving arms, to roll out unconcernedly after a minute, be caught by someone's foot, and started again toward the end of the field where the goal-keeper, crouching in the goal, seems the most alert and the most idle of all the players.

HOW THE BALL IS PLAYED

Probably the most striking thing about the game is that the players have developed skill in handling the ball with their feet and their heads. Where a basketball player dribbles the ball down the floor with his hands, the soccer player must dribble or "baby" the ball down the field with his feet, or drive it with his head if it gets up in the air. When we think how awkward the feet and the head are ordinarily in handling such a thing as a ball in motion and observe the accurate and sure management of the ball by good soccer players, we are likely to feel as if they were doing simple things in impossible ways. But just that ability to do things skillfully in certain prescribed ways is what gives zest to any game. Only the goal-keeper, in association football, can put his hands to the ball, and he can either strike it or catch it. The other players have to make feet and heads do the work of hands. They have to "use their heads" in more senses than one, however, for, as one player put it, "the feet are the machinery, but the head is the motive power." A good deal of thinking and strategy is required.

THE FIELD AND ITS FIXTURES

Before saying something of the strategy of the game, let me give a brief statement of the way the field is laid out and the way the players are arranged, for soccer is not yet so familiar a game in America as are basketball, tennis, etc. The ground, then, should be one hundred and twenty by eighty yards, with goals eight feet wide placed at the middle of each end of the field. These goals are like the ordinary football goals, with two uprights and a crossbar between them eight feet from the ground. A loose net is usually fastened upon the uprights and crossbar to show whether the ball goes inside or outside, in doubtful cases, for where in ordinary American football the ball must go over the crossbar to score a goal, in soccer it must go under the crossbar and between the uprights. The boundary lines at the sides of the field are called the touch-lines; those at the ends the goal-lines. In front of each goal is a rectangular space, marked with lines on the ground, extending eighteen yards into the field. This is called the "penalty area." Within this "area," twelve yards out from the center of the goal-line, is the "penalty kick mark," from which, on a foul being called by the referee, a free kick is allowed at the goal, all players of the defense except the goal-keeper being excluded from the penalty area. These are the features of the field itself.

SCORES AND PENALTIES

The game is started by a "place-kick" from the center of the field, and none of the opposing side is allowed within ten yards of the ball when it is kicked off. Then the ball

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A FOOTBALL TEAM OF MAORIS, NATIVES OF NEW ZEALAND, A STRIKING GROUP OF MEN. THEY ARE SEEN AT THE TOP IN A FORMATION PLAY, READY FOR THE BALL

may be stopped by any part of the body, but may not be held or hit by the hands, arms, or shoulders — except by the goal-keeper. All charging is fair, but holding, pushing with the hands, tripping up, etc., are forbidden. When the ball passes the touch-line it must be thrown back, from the point where it left the field, by a player of the opposite side from that which drove it out. If the ball passes the goal-line without touching one of the defending side, it has to be kicked out by the goal-keeper or a "back," from the line marked in front of the goal, in front of the post nearest the point where the ball left the field. If the ball touches a defender, however, before going out, the attacking side has a "corner-kick," that is, one of its players kicks out from the corner of the field. But such a kick does not score a goal unless the ball touches one of the other players on the way to the goal.

A goal is scored by kicking — not by throwing, knocking, or carrying — the ball between the goal-posts and under the crossbar, each goal counting one point. Usually the time of play in a match-game is one hour and a half divided into two equal periods with a rest between.

OUTSIDE PLAY

Only two other details need mention before we describe the arrangement of the team, namely, that the goal-keeper is limited to his half of the field, and that a player is always "in play" (that is, not off side) if there are three men of the opposing team between him and the goal when the ball is kicked.

THE DIFFERENT POSITIONS

Eleven players make up a team, and they are divided into forwards, backs, and goal-keeper. Five forwards constitute the line of attack, whose business is to advance the ball and score the goals. They are drawn up across the field. The man at the center is called "center forward"; those at the sides are "wings." Behind the forwards come three "halfbacks," whose duty is to support the forwards. Yet nearer the goal are two "backs" or "fullbacks," whose duty is defense. And in the goal is the remaining player, the goal-keeper. The men are thus seen to be spread out over the field more or less like the American football eleven when about to receive the kick-off.

Now, before giving an idea of the duties of the different positions, let me give three maxims which are worth bearing in mind. "Keep your eye on the ball," as they say in golf. That is the first. Second, "Keep your own place." Soccer is a game for a team, not for individuals, and the success of a team depends on each man being in his place, and, so to speak, "on the job." Third, as one of England's famous players puts it, "Kick to, not from." That is to say, remember that your object is not to kick the ball *away from* yourself but to kick it *to* some other person or place. These are three good maxims for the beginner to bear in mind.

THE PLAY OF FORWARDS

Suppose, then, we imagine that we are forwards. What ought we to do and how shall we do it? The duty of the forwards is to score goals. This they must do not as individuals but as a group, relying partly on the backs to "feed" them, that is, to get the ball away from the opponents and pass it to them; but relying also on their own ability to see an opening, get the ball, and dribble it down the field, passing it back and forth to their fellow-forwards. To accomplish this best, the center forward should keep to the middle of the field, the two inside forwards should be about midway between the wings and the center forward, and the wings should be near the touch-lines, a bit in advance of the others. This gives an open formation in which the passes may be short and accurate. The pass should always be made with the instep or with the side of the foot, not with the toe, to insure accuracy; and forwards must, before playing good soccer, have practiced kicking with the instep and with the sides of the feet while on the run, till they can send the ball just where they want, keeping it, as much as possible, close to the ground. They must continually remember, too, to "keep their places," as our second maxim says — to play as a line, not as individuals. A forward should, however, rely on his own ability and not pass to

another player unless that player is in a better position than he himself is for advancing the ball or making a score. Our duty as forwards being to score goals, and our difficulty being to prevent our opponents from taking the ball away from us, we sometimes will find that we have to resort to strategy in fooling them. For example, a good scheme is to keep the ball passing between the forwards on one side of the field until the majority of the opposing defense has been drawn over to meet the attack on that side, and then suddenly swing the ball across to the unguarded forwards on the other side. The inside and outside left forwards for instance might attract three of the opposing backs upon the left wing by playing the short-passing game with each other, and when the defense is thus coaxed out of position they should swing the ball across to where the remainder of the defense has little chance of meeting a swift attack. These few hints suggest the play of the forwards.

THE PLAY OF THE BACKS

And now let us imagine that we are playing at back. What are the things which we shall be expected to do in that position? There are five of us playing back and our business in the game is to prevent the five opposing forwards from making scores. But one of our backs must be kept near the goal to assist the goal-keeper if a sudden attack gets the ball by the first line of defense. That leaves four of us who may roam about with more or less liberty, following the game over the field. We ought each of us to have one opposing forward to watch and be responsible for, with the fifth forward to be taken care of as best we can among us. The three halfbacks may advance with safety almost as far as the ball goes, but the one fullback who works up into the first line of defense, instead of staying near the goal, must still keep behind the halfbacks a little way to be in a position for guarding the goal in case of sudden danger. This should be our general policy so far as position is concerned, though, of course, the position is never kept rigidly in the excitement of a game. Our business as backs is to intercept passes between opposing forwards, and get the ball to our own forwards. If we are to be good backs we shall need wind and speed, for we shall be running constantly and ought if possible to be able to outrun any forward who has got away and is dribbling the ball toward our goal. We must be able to kick the ball with either foot and in any position, whether the ball be on the ground or in the air; we must have practiced the various means of taking the ball away from a running forward, and we must be on the watch particularly for little strategies like the through pass. In fact we ought to combine some of the skill of the forwards in passing and kicking with a power of deception in attacking a forward and a power of seeing through the tricks of the forward as well.

THE PLAY OF THE GOAL-KEEPER

The goal-keeper ought to be able to stop any kind of shot from any angle. He must be able to strike a ball accurately with his fists, to catch it, to punt it, to throw it, and to strike it up over the crossbar if it comes high and at a dangerous moment. He must remember to stick in his goal and rush out only in extreme cases. Since he is the last man on the defense, he is likely to get undue blame for his errors, because they are always costly.

HOW ANYBODY MAY PLAY THE GAME

These, then, are some of the difficult points which we should need to observe if we were playing at different positions in a game. Before closing, it should be said that soccer has some particularly good features for boys who want a lively game which demands little apparatus. A soccer ball can be bought for two dollars, and all that is necessary in addition is a field or meadow. Posts which will serve well enough for an enjoyable game can be readily set up, or even imagined, if they are very hard to secure. The field can be roughly marked out with four corners and a center, sides can be chosen, and the game begun. For a camp party, soccer will be found very often to solve the question as to what game to play. It combines the different features of so many games and is so varied that few who have played it will give it up.

THE GREAT MATCH AT RUGBY

[One of the best books ever written for boys and about boys is Thomas Hughes' "Tom Brown's School Days"; and one of the best parts of this fine book is the tale of the great football match. The dormitory or "house" into which Tom has just come as a new boy stands against all the rest of the school. It is a case of fifty against a hundred and fifty, and what the outcome is, and how the rough old-fashioned game is played, you will learn if you read what follows.]

"BUT why do you wear white trousers in November?" said Tom. He had been struck by this peculiarity in the costume of almost all the schoolhouse boys.

"Why, bless us, don't you know? — No, I forgot. Why, to-day's the schoolhouse match. Our house plays the whole of the school at football. And we all wear white trousers, to show 'em we don't care for hacks. You're in luck to come to-day. You just will see a match; and Brooke's going to let me play in quarters. That's more than he'll do for any other low-school boy except James, and he 's fourteen."

"Who's Brooke?"

"Why, that big fellow that called over at dinner, to be sure. He 's cock of the school, and head of the schoolhouse side, and the best kick and charger in Rugby."

"Oh! but do show me where they play. And tell me about it. I love football so, and have played all my life. Won't Brooke let me play?"

"Not he," said East, with some indignation; "why, you don't know the rules — you 'll be a month learning them. And then it 's no joke playing-up in a match, I can tell you — quite another thing from your private school games. Why, there 's been two collarbones broken this half, and a dozen fellows lamed. And last year a fellow had his leg broken."

Tom listened with the profoundest respect to this chapter of accidents, and followed East across the level ground till they came to a sort of gigantic gallows of two poles eighteen feet high, fixed upright in the ground some fourteen feet apart, with a crossbar running from one to the other, at the height of ten feet or thereabouts.

"This is one of the goals," said East, "and you see the other, across there, right opposite, under the Doctor's wall. Well, the match is for the best of three goals. Whichever side kicks two goals wins; and it won't do, you see, just to kick the ball through these posts; it must go over the crossbar; any height'll do, so long as it's between the posts. You'll have to stay in goal to touch the ball when it rolls behind the posts, because if the other side touch it they have a try at goal. Then we fellows in quarters, we play just about in front of goal here, and have to turn the ball and kick it back before the big fellows on the other side can follow it up. And in front of us all the big fellows play, and that's where the scrummages are mostly."

Tom's respect increased as he struggled to make out his friend's technicalities, and the other set to work to explain the mysteries of "off your side," "drop-kicks," "punts," "places," and the other intricacies of the great science of football.

"But how do you keep the ball between the goals?" said he; "I can't see why it might n't go right down to the chapel."

"Why, that's out of play," answered East. "You see this gravel walk running down all along this side of the playing-ground, and the line of the elms opposite on the other? Well, they're the bounds. As soon as the ball goes past them, it's in touch, and out of play. And then whoever first touches it has to knock it straight out amongst the players-up, who make two lines with a space between them, every fellow going on his own side. Ain't there just fine scrummages then? and the three trees you see there which come out into the play, that 's a tremendous place when the ball hangs there, for you get thrown against the trees, and that 's worse than any hack."

Tom wondered within himself, as they strolled back again toward the fives' court, whether the matches were really such break-neck affairs as East represented, and whether, if they were, he should ever get to like them and play-up well.

He had n't long to wonder, however, for

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SOCCER OR ASSOCIATION FOOTBALL AND THE GROUND LINES

Here is a good idea of the soccer field. The goal has just been made after a vain attempt at defense. In the upper part the ball is being chased down the field, and a kicker can be seen just as the ball has left his foot. It is a lively game.

next minute East cried out, "Hurra! here's the punt-about — come along and try your hand at a kick." The punt-about is the practice ball, which is just brought out and kicked about anyhow from one boy to another before callings-over and dinner, and at other odd times. They joined the boys who had brought it out, all small schoolhouse fellows, friends of East; and Tom had the pleasure of trying his skill, and performed very creditably, after first driving his foot three inches into the ground, and then nearly kicking his leg into the air, in vigorous efforts to accomplish a drop-kick after the manner of East.

Presently more boys and bigger came out, and boys from other houses on their way to calling-over, and more balls were sent for. The crowd thickened as three o'clock approached, and when the hour struck, one hundred and fifty boys were hard at work.

"To the goals!" are the cries, and all stray balls are impounded by the authorities; and the whole mass of boys moves up toward the two goals, dividing as they go along into three bodies.

That little band on the left, consisting of from fifteen to twenty boys, Tom amongst them, who are making for the goal under the schoolhouse wall, are the schoolhouse boys who are not to play-up, and have to stay in goal. The larger body moving to the island goal are the schoolboys in a like predicament. The great mass in the middle are the players-up, both sides mingled together; they are hanging their jackets and all who mean real work their hats, waistcoats, neck-handkerchiefs, and braces on the railings round the small trees; and there they go by twos and threes up to their respective grounds. There is none of the color and tastiness of get-up, you will perceive, which lends such a life to the present game at Rugby, making the dullest and worst-fought match a pretty sight. Now each house has its own uniform of cap and jersey, of some lively color; but at the time we are speaking of plush caps have not yet come in, or uniforms of any sort, except the schoolhouse white trousers, which are abominably cold to-day; let us get to work, bareheaded and girded with our plain leather straps — but we mean business, gentlemen.

THE GAME BEGINS

And now that the two sides have fairly sundered, and each occupies its own ground, and we get a good look at them, what absurdity is this? You don't mean to say that those fifty or sixty boys in white trousers, many of them quite small, are going to play that huge mass opposite? Indeed I do, gentlemen: they're going to try at any rate, and won't make such a bad fight of it either, mark my word; for has n't old Brooke won the toss, with his lucky halfpenny, and got choice of goals and kick-off? The new ball you may see lie there quite by itself, in the middle, pointing toward the school or island goal; in another minute it will be well on its way there. Use that minute in remarking how the schoolhouse side is drilled. You will see, in the first place, that the sixth-form boy who has the charge of goal has spread his force (the goal-keepers) so as to occupy the whole space behind the goal-posts, at distances of about five yards apart; a safe and well-kept goal is the foundation of all good play. Old Brooke is talking to the captain of the quarters, and now he moves away; see how that youngster spreads his men (the light brigade) carefully over the ground, halfway between their own goal and the body of their own players-up (the heavy brigade). These again play in several bodies; there is young Brooke and the bulldogs — mark them well — they are the "fighting brigade," the "diehards," larking about at leap-frog to keep themselves warm, and playing tricks on one another. And on each side of old Brooke, who is now standing in the middle of the ground and just going to kick-off, you see a separate wing of players-up each with a boy of acknowledged prowess to look to — here Warner, and there Hedge; but over all is old Brooke, absolute as he of Russia, but wisely and bravely ruling over willing and worshiping subjects — a true football king. His face is earnest and careful as he glances a last time over his array, but full of pluck and hope, the sort of look I hope to see in my general when I go out to fight.

The school side is not organized in the same way. The goal-keepers are all in lumps, anyhow and nohow; you can't distinguish between

the players-up and the boys in quarters, and there is divided leadership; but with such odds in strength and weight it must take more than that to hinder them from winning; and so their leaders seem to think, for they let the players-up manage themselves.

But now look, there is a slight move forward of the schoolhouse wings; a shout of "Are you ready?" and loud affirmative reply. Old Brooke takes half a dozen quick steps, and away goes the ball spinning toward the school goal, seventy yards before it touches ground, and at no point above twelve or fifteen feet high — a model kick-off; and the schoolhouse cheer and rush on. The ball is returned, and they meet it and drive it back among the masses of the school already in motion. Then the two sides close, and you can see nothing for minutes but a swaying crowd of boys, at one point violently agitated. That is where the ball is, and there are the keen players to be met, and the glory and the hard knocks to be got: you hear the dull thud, thud of the ball, and the shouts of "Off your side," "Down with him," "Put him over," "Bravo." This is what we call a scrummage, gentlemen, and the first scrummage in a schoolhouse match was no joke in the consulship of Plancus.

But see! it has broken; the ball is driven out on the schoolhouse side, and a rush of the school carries it past the schoolhouse players-up. "Look out in quarters," Brooke's and twenty other voices ring out. No need to call, though; the schoolhouse captain of the quarters has caught it on the bound, dodges the foremost schoolboys, who are heading the rush, and sends it back with a good drop-kick well into the enemy's country. And then follows rush upon rush, and scrummage upon scrummage, the ball now driven through into the schoolhouse quarters, and now into the school goal; for the schoolhouse have not lost the advantage which the kick-off and a slight wind gave them at the outset, and are slightly "penning" their adversaries. You say you don't see much in it all; nothing but a struggling mass of boys, and a leather ball, which seems to excite them all to great fury, as a red rag does a bull. My dear sir, a battle would look much the same to you, except that the boys would be men, and the balls iron; but the battle would be worth your looking at for all that, and so is a football match. You can't be expected to appreciate the delicate stroke of play, the turns by which a game is lost and won — it takes an old player to do that — but the broad philosophy of football you can understand if you will. Come along with me a little nearer, and let us consider it together.

The ball has just fallen again where the two sides are thickest, and they close rapidly around it in a scrummage; it must be driven through now by force or skill, till it flies out on one side or the other. Look how differently the boys face it! Here come two of the bulldogs, bursting through the outsiders; in they go, straight to the heart of the scrummage, bent on driving that ball out on the opposite side. That is what they mean to do. My sons, my sons! you are too hot; you have gone past the ball, and must struggle now right through the scrummage, and get round and back again to your own side, before you can be of any further use. Here comes young Brooke; he goes in as straight as you, but keeps his head, and backs and bends, holding himself still behind the ball, and driving it furiously when he gets the chance. Take a leaf out of his book, you young chargers. Here come Speedicut, and Flashman the schoolhouse bully, with shouts and great action. Won't you two come up to young Brooke, after locking-up, by the schoolhouse fire, with "Old fellow, was n't that just a splendid scrummage by the three trees!" But he knows you, and so do we. You don't really want to drive that ball through that scrummage, chancing all hurt for the glory of the schoolhouse, but to make us think that's what you want — a vastly different thing; and fellows of your kidney will never go through more than the skirts of a scrummage, where it's all push and no kicking. We respect boys who keep out of it, and don't sham going in; but you, we had rather not say what we think of you.

Then the boys who are bending and watching on the outside, mark them; they are most useful players, the dodgers, who seize on the ball the moment it rolls out from amongst the chargers, and away with it across to the opposite goal. They seldom go into the scrummage, but must have more coolness than the chargers;

as endless as are boys' characters, so are their ways of facing or not facing a scrummage at football.

THE TOUCHDOWN

Three quarters of an hour are gone; first winds are failing, and weight and numbers beginning to tell. Yard by yard the schoolhouse have been driven back, contesting every inch of ground. The bulldogs are the color of mother earth from shoulder to ankle, except young Brooke, who has a marvelous knack of keeping his legs. The schoolhouse are being penned in their turn, and now the ball is behind their goal, under the Doctor's wall. The Doctor and some of his family are there looking on, and seem as anxious as any boy for the success of the schoolhouse. We get a minute's breathing time before old Brooke kicks out, and he gives the word to play strongly for touch, by the three trees. Away goes the ball, and the bulldogs after it, and in another minute there is a shout of "In touch," "Our ball." Now's your time, old Brooke, while your men are still fresh. He stands with the ball in his hand, while the two sides form in deep lines opposite one another; he must strike it straight out between them. The lines are thickest close to him, but young Brooke and two or three of his men are shifting up farther, where the opposite line is weak. Old Brooke strikes it out straight and strong, and it falls opposite his brother. Hurrah! that rush has taken it right through the school line, and away past the three trees, far into their quarters, and young Brooke and the bulldogs are close upon it. The school leaders rush back shouting "Look out in goal," and strain every nerve to catch him, but they are after the fleetest foot in Rugby. There they go straight for the school goal-posts, quarters scattering before them. One after another the bulldogs go down, but young Brooke holds on.

"He is down!" No! a long stagger, but the danger is past; that was the shock of Crew, the most dangerous of dodgers. And now he is close to the school goal, the ball not three yards before him. There is a hurried rush of the school fags to the spot, but no one throws himself on the ball, the only chance, and young Brooke has touched it right under the school goal-posts.

The school leaders come up furious, and administer toco to the wretched fags nearest at hand. They may well be angry, for it is a Lombard-street to a china orange that the schoolhouse kick a goal with the ball touched in such a good place. Old Brooke of course will kick it out, but who shall catch and place it? Call Crab Jones. Here he comes, sauntering along with a straw in his mouth, the queerest, coolest fish in Rugby: if he were tumbled into the moon this minute, he would just pick himself up without taking his hands out of his pockets or turning a hair. But it is a moment when the boldest charger's heart beats quick. Old Brooke stands with the ball under his arm motioning the school back; he will not kick-out till they are all in goal, behind the posts. They are all edging forward, inch by inch, to get nearer for the rush at Crab Jones, who stands there in front of old Brooke to catch the ball. If they can reach and destroy him before he catches, the danger is over; and with one and the same rush they will carry it right away to the schoolhouse goal. Fond hope! It is kicked out and caught beautifully. Crab strikes his heel into the ground, to mark the spot where the ball was caught, beyond which the school line may not advance; but there they stand, five deep, ready to rush the moment the ball touches the ground. Take plenty of room! Don't give the rush a chance of reaching you! Place it true and steady! Trust Crab Jones — he has made a small hole with his heel for the ball to lie on, by which he is resting on one knee, with his eye on old Brooke. "Now!" Crab places the ball at the word, old Brooke kicks, and it rises slowly and truly as the school rush forward.

Then a moment's pause, while both sides look up at the spinning ball. There it flies, straight between the two posts, some five feet above the crossbar, an unquestioned goal; and a shout of real genuine joy rings out from the schoolhouse players-up, and a faint echo of it comes over the close from the goal-keepers under the Doctor's wall. A goal in the first hour — such a thing has n't been done in the schoolhouse match this five years.

"Over!" is the cry; the two sides change

goals, and the schoolhouse goal-keepers come threading their way across through the masses of the school, the most openly triumphant of them, amongst whom is Tom, a schoolhouse boy of two hours' standing, getting their ears boxed in the transit. Tom is indeed excited beyond measure, and it is all the sixth-form boy, kindest and safest of goal-keepers, has been able to do to keep him from rushing out whenever the ball has been near their goal. So he holds him by his side, and instructs him in the science of touching.

At this moment Griffith, the itinerant vender of oranges from Hill Morton, enters the close with his heavy baskets; there is a rush of small boys upon the little pale-faced man, the two sides mingling together, subdued by the great Goddess Thirst, like the English and French by the streams of Pyrenees.

But now Griffith's baskets are empty, the ball is again placed midway, and the school are going to kick off. Their leaders have sent their lumber into goal, and rated the rest soundly, and one hundred and twenty picked players-up are there, bent on retrieving the game. They are to keep the ball in front of the schoolhouse goal, and then to drive it in by sheer strength and weight. They mean heavy play, and no mistake, and so old Brooke sees, and places Crab Jones in quarters just before the goal with four or five picked players, who are to keep the ball away to the sides, where a try at goal, if obtained, will be less dangerous than in front. He himself, and Warner and Hedge, who have saved themselves till now, will lead the charges.

"Are you ready?" "Yes." And away comes the ball, kicked high in the air, to give the school time to rush on and catch it as it falls. And here they are amongst us. Meet them like Englishmen, you schoolhouse boys, and charge them home. Now is the time to show what mettle is in you; and there shall be a warm seat by the hall fire, and honor, and lots of bottled beer to-night for him who does his duty in the next half-hour. And they are well met. Again and again the cloud of their players-up gathers before our goal and comes threatening on, and Warner and Hedge, with young Brooke and the relics of the bulldogs, break through and carry the ball back; and old Brooke ranges the field like Job's war-horse. The thickest scrummage parts asunder before his rush, like the waves before a clipper's bows. His cheery voice rings over the field, and his eye is everywhere. And if these miss the ball, and it rolls dangerously in front of our goal, Crab Jones and his men have seized it and sent it away toward the sides with the unerring drop-kick. This is worth living for — the whole sum of school-boy existence gathered up into one straining, struggling half-hour — a half-hour worth a year of common life.

The quarter to five has struck and the play slackens for a minute before goal; but there is Crew, the artful dodger, driving the ball in behind our goal, on the island side, where our quarters are weakest. Is there no one to meet him? Yes! look at little East! The ball is just at equal distances between the two, and they rush together, the young man of seventeen and the boy of twelve, and kick it at the same moment. Crew passes on without a stagger; East is hurled forward by the shock, and plunges on his shoulder, as if he would bury himself in the ground; but the ball rises straight into the air, and falls behind Crew's back, while the "bravos" of the schoolhouse attest the pluckiest charge of all that hard-fought day. Warner picks East up lame and half-stunned, and he hobbles back into goal, conscious of having played the man.

THE LAST RUSH

And now the last minutes are come, and the schools gather for their last rush, every boy of the hundred and twenty who has a run left in him. Reckless of the defense of their own goal, on they come across the level big-side ground, the ball well down amongst them, straight for our goal like the column of the Old Guard up the slope at Waterloo. All former charges have been child's play to this. Warner and Hedge have met them, but still on they come. The bulldogs rush in for the last time; they are hurled over or carried back, striving hand, foot, and eyelids. Old Brooke comes sweeping round the skirts of the play, and turning short round picks out the very best heart of the scrummage, and plunges in. It wavers for a moment — he has the ball!

No, it has passed him, and his voice rings out clear over the advancing tide, "Look out in goal." Crab Jones catches it for a moment, but before he can kick the rush is upon him and passes over him, and he picks himself up behind them with his straw in his mouth, a little dirtier, but as cool as ever.

The ball rolls slowly in behind the schoolhouse goal not three yards in front of a dozen of the biggest school players-up.

There stands the schoolhouse prepostor, safest of goal-keepers, and Tom Brown by his side, who has learned his trade by this time. Now is your time, Tom. The blood of all the Browns is up, and the two rush in together, and throw themselves on the ball, under the very feet of the advancing column, the prepostor on his hands and knees arching his back, and Tom all along on his face. Over them topple the leaders of the rush, shooting over the back of the prepostor, but falling flat on Tom, and knocking all the wind out of his small carcass. "Our ball," says the prepostor, rising with his prize; "but get up there, there 's a little fellow under you." They are hauled and roll off him, and Tom is discovered a motionless body.

Old Brooke picks him up. "Stand back, give him air," says he, and then feeling his limbs, adds, "No bones broken. How do you feel, young 'un?"

"Hah-hah," gasps Tom, as his wind comes back; "pretty well, thank you — all right."

"Who is he?" says Brooke. "Oh, it 's Brown, he's a new boy; I know him," says East, coming up.

"Well, he is a plucky youngster, and will make a player," says Brooke.

And five o'clock strikes. "No side" is called, and the first day of the schoolhouse match is over.

BASKETBALL — THE LIVELIEST, SEVEREST INDOOR GAME

BASKETBALL is not a game which has come down from past generations. It was invented, like the sanitary drinking-cup or the aëroplane, in 1891, and the inventing was done by a young man named James Naismith. He was a student at the Y. M. C. A. training school in Plainfield, Mass. One night, after hearing a lecture on the mental processes of invention, he went home and invented basketball, drawing up the rules that night and trying them in a practice game with some of the students on the following day. The game was immediately successful, and from that time has continued popular.

THE SIZE OF THE FLOOR, THE GOALS, ETC.

It is best played on a floor sixty by forty feet, with baskets hung ten feet above the floor at either end. The standard diameter for the wire ring which forms the top of the basket is eighteen inches. The backstop, against which the ball strikes when a shot is made for the basket, ought to be six inches behind the basket and should measure six feet by four. It must, of course, be stiff enough to give an unyielding surface against which to play the shots. The ball accepted as standard measures thirty inches in circumference.

HOW THE TEAM IS ORGANIZED

Everybody knows that basketball may be played informally with about as many players on a side as the size of the floor will permit; but the regulation team is composed of five, divided into the right and left forwards, the right and left guards, and the center. The functions of these different positions are suggested by the names. The forwards are usually most active in scoring, and the guards in preventing scores by the opposition. The center has the function of a forward, for the most part, but also has some of the duties of a guard. This last appears, for example, at the opening of a game.

THE PLAYING OF THE GAME

At the opening of a game the opposing centers stand at the center of the floor and the referee throws the ball into the air between them. It

is then the duty of the center to strike the ball in such a way that one of his forwards may get it. A good center will never forget that his business is to "feed" the forwards, and that he must not try to knock the ball away from his opponent or to get it himself so much as to get it to his own forwards. The difference may seem slight, but it often makes the difference between a good center and a poor one.

Once the ball has been set in motion, the guards must be alert for intercepting passes and the forwards must be alert in eluding the opposing guards. This is the general policy of the two positions. After a team has played together for some time it will naturally develop certain fine points of tactics and will learn to rely on its different members for certain kinds of play in which they are most proficient. One player may excel in dribbling, another in receiving the pass, another in getting down to the goal. A captain will soon learn the weak and strong points of his team and plan the system of play accordingly. But the general policy is to rely on the guards for defense and be sure they do not neglect this for the sake of scoring. The scoring should, as much as possible, be left to the forwards.

I am taking it for granted that the general principles of play and the rules of the game are familiar to most of my readers; so that I shall merely add a word of comment on the individual play and the team play and how success in each is to be insured. The success of an individual player depends first on his skill in throwing, dribbling, passing, and deceiving the opposition as to his intentions.

These things he may practice for himself. But they alone do not make a good player. He must not only have skill in the right use of his hands, arms, and feet, but must also have in his head a constant recollection of the duties of his position. That is, he must remember, if he is a guard, that his business is not to rely on his own skill but first of all to fulfill his function as a member of the team. If the play gives him a chance to score, he must be able to accept the chance; but he must not try to create opportunities for himself. He must try to create opportunities for the forwards. That is his function—not as an individual, but as a member of the team. So with this twofold duty in mind — the duty of being skillful as an individual player, but of playing the position he holds as the policy of the position rather than his individual desire demands — a basketball player will achieve the fullest success.

Basketball is a very popular game in girls' colleges, schools, and camps.

HERE ARE INDIANS PLAYING BAGGATAWAY, AS DESCRIBED IN THE ARTICLE. THE SCENE WAS PAINTED BY GEORGE CATLIN, WHO LIVED FOR YEARS AMONG THE INDIANS, RECORDING THEIR CUSTOMS

LACROSSE, THE NATIONAL GAME OF CANADA

THE constant search for new games has brought into the United States and has carried to England the game of lacrosse, which was originally adopted by the Canadians from the Indian tribes. The Indians had probably played the game for centuries. Once, at Mackinac, they used it as a trick to get into the fort and massacre the garrison. Inviting all to watch their "ball-play," the Indians began their game in the open ground before Mackinac, but managed to get nearer and nearer the fort as they played on until suddenly dropping their sticks and seizing their tomahawks, which the squaws held in readiness, they leaped into the fort and massacred the entire garrison.

HOW THE INDIANS PLAYED THE GAME CALLED "BAGGATAWAY"

Among the Indians the game was very popular, some braves preferring fame as a player to fame as a warrior or hunter, some braves betting all their possessions upon the outcome of the match, and some even committing suicide in case of defeat. The night before a game, each tribe assembled ready for play, the squaws accompanying the braves with torches and switches. In all their paint and strange decorations of hair and feathers, the members of each band gathered at their allotted goal and began a solemn dance around it, with hands and sticks raised high above their heads. So all night the squaws danced, the braves danced, and the medicine-men, who served as umpires, sat apart, smoking and praying to the spirits. When these preliminaries were all completed and the day had dawned, the bands took their places on the field, and play began. The braves played furiously, tripping, striking with their sticks, never pausing. The squaws urged them on by lashing them with their switches. Before play was over one may

imagine what a frenzied, exhausted crowd would be on the field. When they played, as they often did, with a thousand on a side, it must have been a sight to remember.

THE ADOPTION OF THE GAME BY CANADA

The game was taken up by British settlers pretty early, but was not fully organized until 1867, when it became accepted as the national game of Canada. Since then it has been

taken up in England and the United States. In the name, *lacrosse*, we have a sign that the game was adopted by the French settlers in Canada, for the name is French. It is said to come from the shape of the *crosse*, or stick used in playing, which was thought to bear some resemblance to a bishop's crozier.

THE CROSSE AND BALL

This crosse is made of wood bent at the top into a hook, to which cross-strings of gut or rawhide are fastened to make a face more or less like that of a tennis racket, except that they are in larger meshes and are not strung so tightly. This must not be more than twelve inches broad at any point. The length of the stick, however, is not restricted, but is left to the individual's preference. The ball, which is caught and carried during the game on this network of gut, is a solid ball of india-rubber sponge, weighing about four and a quarter ounces and measuring about eight inches in circumference.

GOALS AND BOUNDARIES

For playing the game, two goals, a goal-crease, and marks for boundary lines, are all the necessary details in addition to the stick and ball. The goals are set up from one hundred to one hundred and fifty yards apart and are six feet square — that is the goal-posts are six feet high and the crossbar is six feet long. A net is stretched from the crossbar and the sides of the posts to a stake six feet behind the middle of the line between the posts. These goals are at the middle of a space twelve feet square, which is called the goal-crease.

THE PLAYERS AND PLAY

Twelve players on a side, each marking or guarding an opponent, make up the teams of a lacrosse game. Their arrangement and the names of the positions are shown in our diagram. The game opens with the two centers facing each other with the ball between their crosses on the ground. The crosses are held wooden side down. At the referee's call of "Play," each center tries to scoop up the ball, by drawing the crosses sharply inward, and he who is successful starts running, keeping the ball on the crosse by a peculiar rocking motion which must be learned through practice. His object is to throw the ball into the goal, but he will have to rely upon passing to his team-mates in bringing the ball near the goal; and, although it is possible to throw the ball with a crosse more than two hundred yards, the player usually relies on short passes and speedy running rather than the long throw for making a score. Since there is no off side in lacrosse, he may pass the ball in any direction, and the rules permit kicking it or striking it with the stick, but forbid all players except the goal-keeper to touch the ball with their hands. Even the goal-keeper may use his hands only

in stopping the ball, and not in throwing it. The defense, in attempting to meet the attack upon their goal and get the ball, may stand directly in front of a player who has the ball ("body-check" this is called), but may not charge, hold, strike, or trip. And a player who has not the ball in his possession may not be interfered with in any way.

PENALTIES

Interference is penalized either by suspension or by allowing a "free position." When a "free position" is awarded, each player stands where he may happen to be, until the ball is put into play. But the goal-keeper is allowed to get back to his goal, on a "free position," and any opponent within five yards of the player getting the ball on a penalty must go back till he is five yards away.

When the ball passes a boundary the referee calls "stand" and all players keep their places till the ball is brought in and "faced," four yards within the boundary line, by the two opposing players nearest the point where the ball left the field.

SADDLEBAGS, A GAME ADOPTED FROM THE INDIANS

A GAME like lacrosse in some ways but having the advantage of not requiring expensive and shop-made implements, is another Indian game, called Squaw, Saddlebags, or Sky Shinny. This is played with a pair of bean bags, seven by four inches in size, and not heavy enough to be dangerous when thrown. The two bags should be fastened together with a strap about two feet long, securely sewed to the bags at each end. Since the rules of the game do not allow players to touch the bags with hands or feet, each player has a strong and light stick slightly curved at one end, like a hockey-stick.

With these sticks the bags are handled. They may be picked from the ground, caught in the air, or carried, as a lacrosse ball is carried, in a rush toward the goal. They may also be used as a boy uses a stick for throwing green apples, to sling the bags over the heads of the opposing team, toward the goal.

THE RULES ARE SIMPLE

One of the advantages of the game is that the rules are simple. Of course there is to be no tripping, or kicking, or rough play of any sort with feet, hands, or stick. There are two goals like football goals, consisting of two uprights and a crossbar about ten feet from the ground. These should be at either end of an open field about the size of a football field. The field is called the "prairie."

Any number of boys may play the game, and may be divided roughly into forwards, backs, and goal-keepers; or, as they may better be called, since this is an Indian game, the *tribes*, the *braves*, and the *bucks*. The captain of each team is the *chief*.

PLAYING THE GAME

When sides have been chosen and the two chiefs have tossed up for choice of goal or first cast, the chiefs arrange their men with the bucks to guard the goal, the braves in advance of them toward the middle of the field, for protection, and the tribes scattered in a line across the field near its middle. Then the side which won choice of goal prepares to receive the first shot.

One of the tribes, usually the chief, takes the saddlebags on his stick and makes as good a cast as he can, as a football player kicks off, from the middle of the field. When the bags come down, they should be caught on his stick by one of the opposing braves, who then must race for the goal as in American football, or else pass the bags to some team-mate. The opposition may now secure the bags by lifting them from the stick of the runner, or catching them when he attempts to make a pass or throw, but is not allowed to strike the runner's stick or person. Poking or slipping the end of your stick under the bags and lifting them off the runner's stick is the only fair method of

attack. When a brave is thus stopped, it is the business of the tribesmen to fling or carry the bags back toward the other goal. The bucks of course are the last line of defense.

HOW THE SCORE IS MADE

The scores which can be made are as follows: Running over the goal-line with the bags counts one scalp; throwing the bags under the crossbar and between the uprights counts three scalps; throwing the bags over the crossbar and between the limits indicated by the uprights counts ten scalps. This last is like kicking a goal in a football game. If the saddlebags catch and hang on the goal-posts, it is called a straddle and is scored as eight scalps. When the bags fall outside the boundaries, they are thrown back by the umpire at the same point where they crossed the line, and all players must stand in the places where they were when the bags went out, until the umpire makes his throw.

It is clear then that saddlebags resembles the game of lacrosse, but is played with implements which can be made at home, with little trouble. It resembles lacrosse in its implements and tactics, but football in its scoring, and it will be best to decide all disputes which may arise in course of play by the rules of football. Make a set of bags and cut a stick; you'll have a lot of fun out of the game to repay you.

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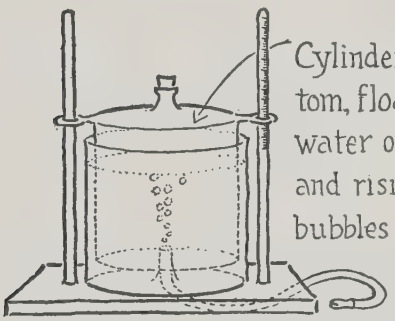
BOY SCOUTS ON DUTY AS PICKETS IN WASHINGTON ON PARADE DAY

HOW TO MAKE A LUNG TESTER

IN the summer time it is not uncommon for a group of lads to have a competition in breath-holding, and proud is he who can pass the minute-and-a-half mark. But suppose they should wish to see not who can hold a



Cylinder, open at bottom, floating in the water of the tank and rising as air bubbles up into it

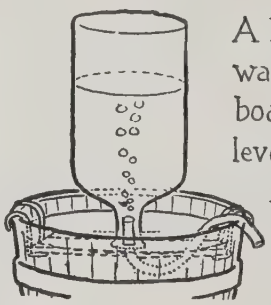
breath longest, but who can draw in the biggest breath. A watch will not suffice for that test, and a special apparatus is needed. Gymnasiums usually have such apparatus, built on the plan shown in the illustration, and expensive to buy. If you could get hold of just the right cans and tubes, and were clever at soldering, you could manufacture one of these yourself. But there is another form of capacity-tester that is much easier to provide.

The chief ingredient of this simple tester is a large bottle. Ideally it should be a gallon bottle, and it should have straight sides, and not rounded ones. The only other thing that needs to be bought is a foot and a half of good-sized rubber tubing — the thicker the better. Very likely you can find the right bottle around the house; the tube you will probably have to buy, at a cost of about twenty cents.

Now if you fill a pail with water, and then fill the bottle with water, and holding your hand over the mouth tip the bottle upside down and put the mouth under the surface of the pail-water, you can take your hand away from the mouth, yet the water will stay right there in the bottle. This is a mysterious fact, and a good deal might be said about it. But just at this point it is the fact and not the explanation that concerns us. If, still holding the bottle in the same position, you were to slide one end of the rubber tube up through the neck into the bottle, and then were to blow through the tube, every particle of air that you blew would bubble up and take the place of just so much of the water in the bottle. So to measure the capacity of your lungs you have simply to blow in all the air you possibly can with a single breath, and then measure that air as it stands in plain sight in the bottle. What you see in the diagram is a convenient means of holding bottle and tube in place.

Of course, so far as the competition goes, it is only necessary to mark the height of the water in the bottle, an elastic band around furnishing a convenient mark. But if you want to know how many cubic inches of air there are in the bottle any time, find the diameter of the inside of the bottle and after dividing the diameter by two to find the radius, work out this formula: radius × radius × 3.1416 × depth of the contained air. This will give you the number you desire. The average lung capacity of a grown man is 180 cubic inches, or very nearly the equivalent of three quarts. See how near you come to the average.

It should be remembered, though, that you are not measuring all the air that is in the lungs; you are measuring all that you can



A large bottle, full of water, is set upon a board hung below level of water in pail. Air blown into bottle displaces equal amount of water

blow out, and after your utmost effort there is still a good deal of air left inside. When the current of fresh air comes swirling down into the many-branched tubes of the lungs, the left-over air at the ends of the tubes mixes with the new, and so parts of the fresh current get to the very ends. Another thing to remember is that

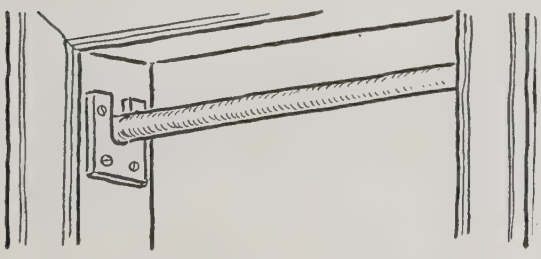
an ordinary breath, so far from being 180 cubic inches, is only about twenty. It is only when you are exercising, or when you purposely try to take in deep breaths, that you begin to use your full lung capacity.

The tubes of the lungs, you may know, are lined with thousands of little projecting points around which the air currents flow; and it has been estimated that the total surface thus exposed to the air is 240 square yards. No wonder then that when we get outdoors and let this wonderful lung-engine extract lots of oxygen from the fresh air, we feel at our very best; and no wonder that after the long night's sleep, when our breathing has been at its quietest, we need to shake ourselves up and draw full breaths, to drive the old air out and put fresh air in its place.

A HOME GYMNASIUM

EVERY boy — and why not every girl, too? — ought to have a few pieces of simple gymnasium apparatus right at home, either in his or her own room, or in a vacant room near at hand. There are, of course, certain things like "horses" and parallel bars, and ladders, and swinging rings, that it would be foolish to try to set up in the house. Where possible, everyone should have membership in some large gymnasium, and make use of this more elaborate apparatus there. But right in one's own room it is perfectly possible to have a horizontal bar, and a punching bag, and pulley weights.

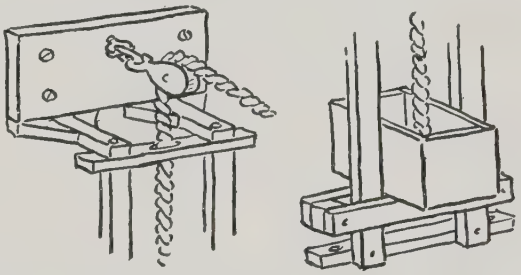
The horizontal bar is the easiest to make. It is a length of stout wooden curtain-rod, cut to fit exactly in the most convenient doorway, and set in simple brackets. Needless to say, each part should be perfectly strong, since a very serious accident might happen if any part gave way. No danger need be feared if the brackets are of thick enough wood, screwed in place. With an auger, bore holes through the brackets where the screws are to go; then hammer the screws lightly into the wood of the door-jamb before beginning to turn them in.



THE HORIZONTAL BAR IN THE DOORWAY

A second set of brackets, to hold the bar about waist high, will enable you to add to the number of possible bar exercises.

The punching bag need not cost you more



THE FIRST DIAGRAM SHOWS THE UPPER PART OF THE PULLEY WEIGHTS. THE SECOND GIVES THE LOWER PART. THE ROPE IS KNOTTED THROUGH A HOLE IN THE BOX, AND THE BOX IS WEIGHTED WITH STONE

than a quarter; and if you can find lying around the house a heavy bed spring, or other spring with a good deal of "pull" in it, you will not have to spend a penny. Make the bag — with your mother's aid — out of an eighteen-inch section of an old trouser-leg. Gather one end of this improvised bag and tie a rope tightly around it, leaving a stump about four inches long. Bend this stump back on the bag and sew it on, spreading it somewhat in so doing, to distribute the strain. Then stuff the bag full of old rags, wound into a compact ball, and gather the other end and tie and sew it as you did the first. Screw a hook into the top of a door-frame, preferably that of a closet door; and by one of the ropes hang the bag at about the height of your chin. To a hook in the door-sill fasten the spring. Then fasten the other

Photos by Paul Thompson

DEDICATION OF A STADIUM FOR ATHLETIC CONTESTS AT BERLIN

rope from the bag to the spring, making the rope somewhat taut — and there you have a punching bag that will spring away and come back at you in good style.

A set of pulley weights might be made with long, very flexible springs, or with elastic cord. But there are objections to both these materials. The springs cannot be varied to give light or heavy pulls; and besides they do not give a uniform resistance throughout the stroke. Elastic cord has the same demerits, and in addition loses its springiness after a while and must be replaced at considerable cost.

It is much better to make the pulley weights of rope, screws, and pine wood, with two galvanized iron pulleys as the only extras. The drawings show how the parts are to be put together. Use what the carpenters call "furring-strip." For a set of pulley weights standing five feet high you will need two sixteen-foot pieces. Get whoever sells them to you to plane them down smooth on all sides; and get pieces as free from knots as possible. To make the weights run smoothly, put some lard on the uprights, and line the holes through which the ropes run with bits of sheet lead, pounded down round at the edges.

The time to use your home gymnasium is just after you have arisen in the morning. Take a good drink of cold water; "chin" yourself six or eight times on the horizontal bar; work away at the weights for five minutes, and then pound the bag for five more for the sake of wind and the power to get plenty of "punch" into a blow.

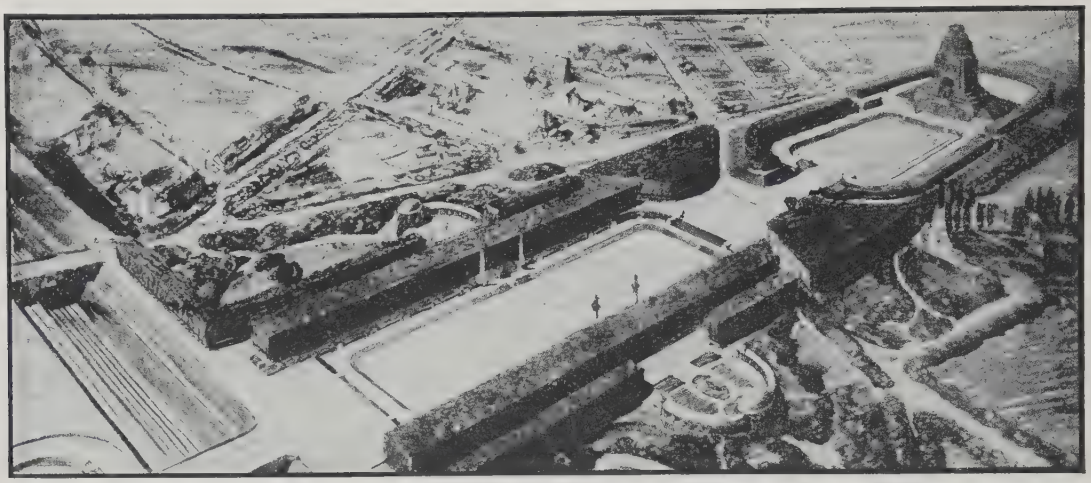
Do all this, and your day will be royally well started. Form the habit, and keep it up all your life long.

THE OLYMPIC GAMES

THESE are the great international athletic contests which have excited so much interest since their inauguration in 1894. They are a revival of an ancient Greek festival held once in five years on the plain of Olympia. This festival was in honor of Zeus, the father of the Gods, and its origin is uncertain. As far back as anything is known of Greek history they were celebrated. Originally only men of pure Hellenic blood were allowed to compete. Women were forbidden to be present on pain of death. The contestants were required to undergo a preliminary training of ten months in the gymnasium at Elis. The games themselves lasted for five days. On the first day sacrifices were made and the contestants arranged in groups and an orderly procedure settled. On the second day came the contests of boys, principally foot races, wrestling, and boxing. The third and principal day was devoted to the contests of men in races, wrestling, in armor and without, and for long and short distances, wrestling, boxing, the pankration and the pentathlon. The pankration was an exhibition of all accepted physical exercises by one man. The pentathlon was the entrance of each contestant in the five games of leaping, running, throwing the discus, throwing the spear, and wrestling. The fourth day was given to the horse races. The fifth day was set aside for the announcement of the victors and the celebrations connected therewith. The victors were crowned with a garland of wild olive and were held in great honor. In most of the Greek states they were exempt from all taxes and given a seat of honor at all assemblies. In Athens they were boarded at the expense of the city at the Prytaneum. The list of victors begins with the year 796 B. C. and closes with the year 376 A. D., at which time the last Olympic festival was held, and an institution that had lasted for more than a thousand years ceased. The famous temples were destroyed by Goths.

THE MODERN REVIVAL

June 24, 1894, at the Palais de la Sorbonne in Paris a great international congress was assembled at which it was determined to revive, as an international competition, the great Olympic games. In order to superintend and develop the work, a permanent International Olympic committee was appointed, with power



THE LEIPZIG MEMORIAL, SHOWING THE STADIUM AND LAKE

to fill any vacancies occurring in its membership. It was also decided that the games should be held once in four years and that the competitions should take place in rotation at different points, as near as possible to the great world capitals. Thus far there have been celebrated six Olympiads, the first being held at Athens in 1896, the second at Paris in 1900, the third at St. Louis in 1904, the fourth at London in 1908, the fifth at Stockholm in 1912, and the last at Antwerp in 1920.

The permanent committee has at present forty-five members representing thirty-one different countries. In 1914 a new congress was called to signalize the completion of twenty years of successful operation and to settle some questions of procedure that have arisen during that time. The author of the revival idea and the chairman of the Permanent Committee is Pierre de Coubertin of Paris.

A TENSE MOMENT IN AN OLYMPIC WRESTLING MATCH. WHO HAS THE ADVANTAGE?

THE EVENTS AT A MODERN OLYMPIAD

Nearly every form of athletic exercise and game is given a place in these great competitions. In place of the events constituting the old pentathlon, the modern pentathlon consists of pistol shooting, fencing, riding, swimming, and cross-country running. This choice is determined by a desire to follow the spirit rather than the letter of the ancient competitions, which was to have the five competitions of that event represent the strength and skill proper to a soldier. The decathlon is an event with ten component parts and is similar to our familiar all-round athletic competitions. Throwing the discus and casting the javelin are the only other events not familiar to every American boy. Both are old Greek sports and are included in a spirit of loyalty to the ancient institution. They are picturesque, but do not find a large following in American athletics.

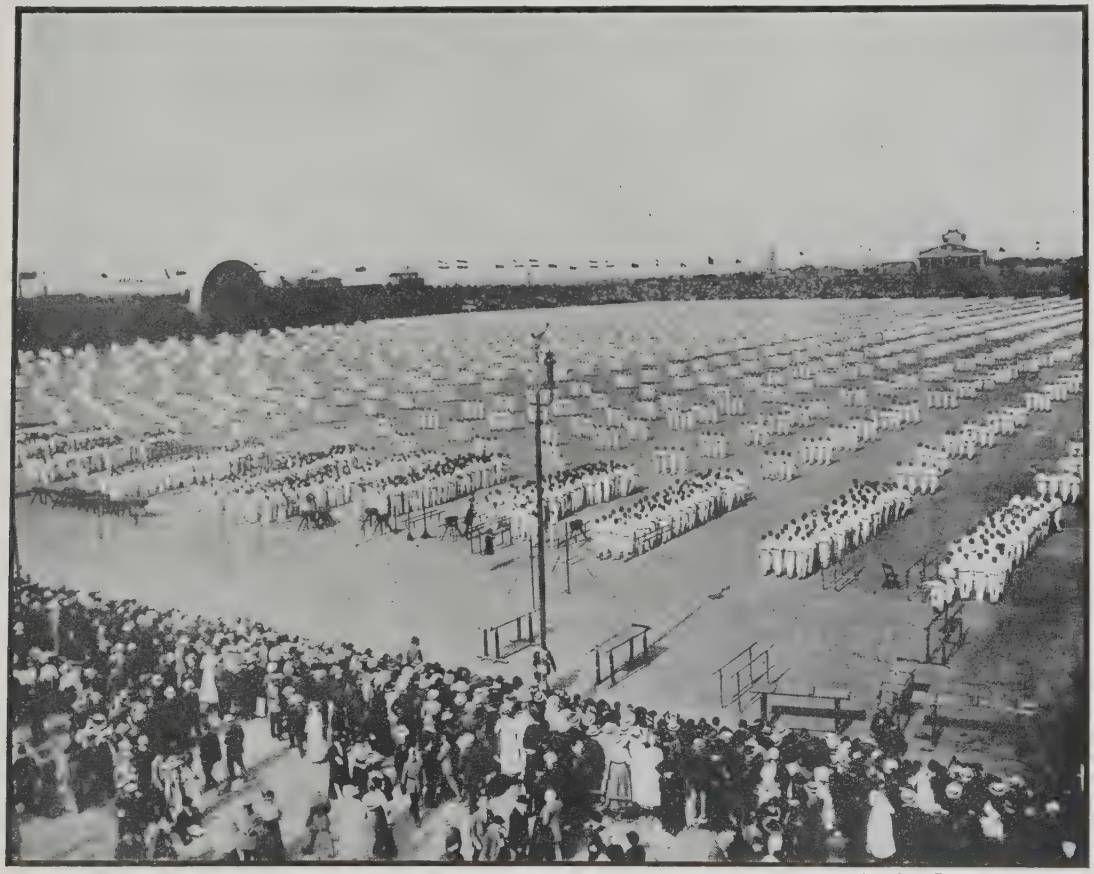
AMERICA AT THE OLYMPIC GAMES

Americans have much reason to feel pride in the showing made by American athletes at these events. Indeed it is scarcely too much to say that their nearest competitors have been but a poor second. It is principally in the running and jumping that American supremacy has appeared. The Marathon, or long distance

run, and practically all other foot races, the broad and high jumps, both running and standing, and the pole vault have been practically conceded to American athletes from the beginning. America has also taken its full share of hurdle events and of shot putting and hammer throwing. This predominance has given to American athletes the victory in total points won for the meet. In games and sports Americans have not shown to so good advantage; nor in military exercises, such as fencing, pistol shooting, riding, etc.

But on the whole, so marked has been the American leadership that several Olympic committees have sent commissions to this country to study American athletic methods.

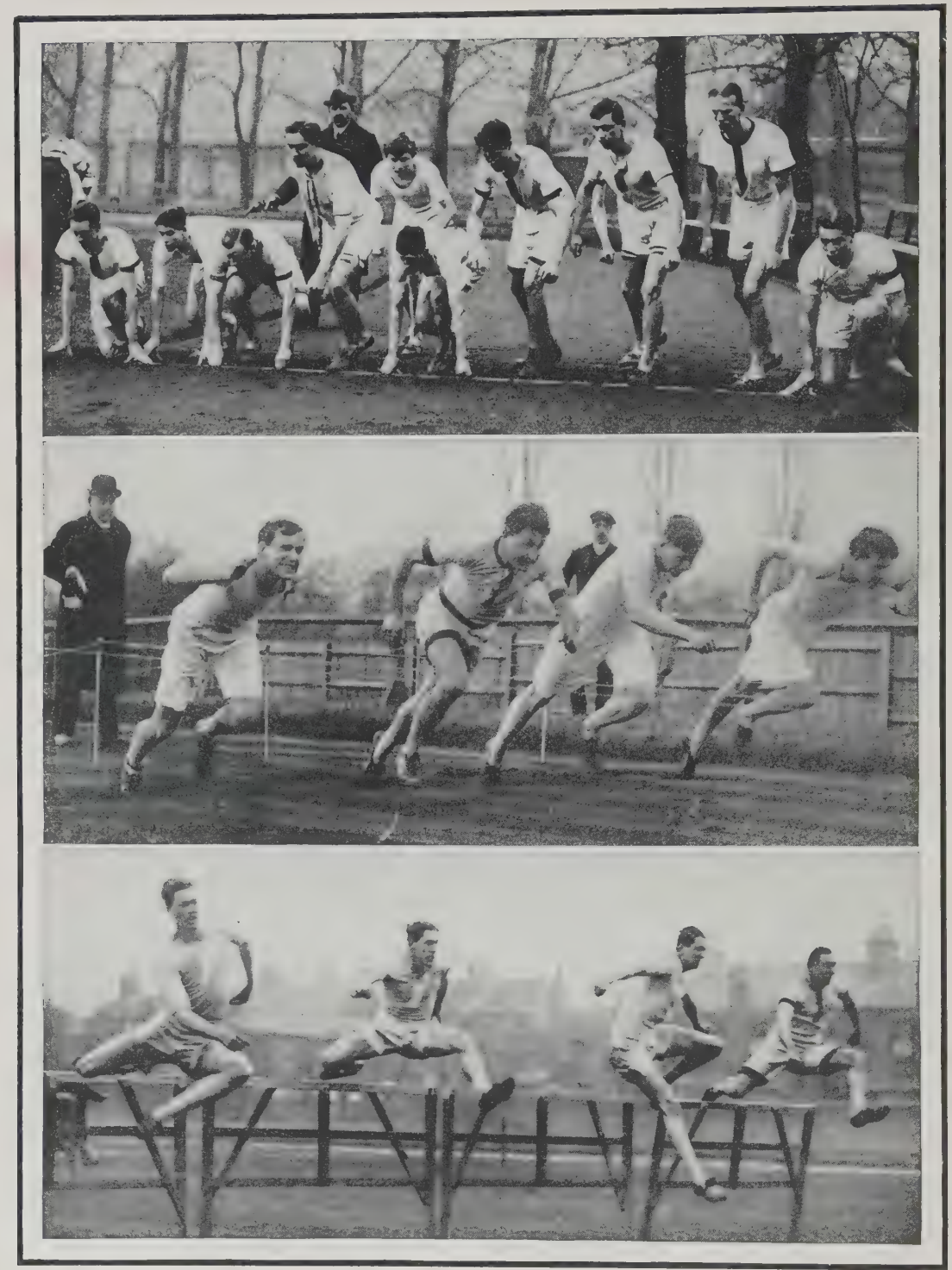
They have found that American athletic superiority is due to the skillful training given at school and college and the wide interest among youths in athletic sports. They have also paid a high tribute to the temperate habits and rational diet of American people as a whole. Without temperate and moral living, no athletic superiority can be achieved.



American Press Association

TWELFTH ANNUAL ATHLETIC MEET AT LEIPZIG, GERMANY

Here are seventeen thousand gymnasts performing. It is said that one hundred thousand European athletes took part, and a stadium was built four times as large as the one at Stockholm in which the Olympic games were held. The leading athletes of the world were interested in this wonderful series of events.



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TOP: DIFFERENT POSITIONS AT THE START OF A DISTANCE RUN. CENTER: THE RUSH AFTER THE REVOLVER IS SHOT FOR THE "GO." BOTTOM: JUMPING THE HURDLES IN ONE OF THE HARDEST OF RACES

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TRACK ATHLETICS

ALL track athletics call for three qualities that must be cultivated. These are, in the order of their importance, mental self-control, rhythmic motion, ability to go your limit.

I have placed mental self-control first, for the body naturally obeys the mind. What you think and will, the body does. Thinking and willing with energy and accuracy form an important part of athletic training. A sluggish mind will not produce alert action. It is for this reason that athletics so often develop a boy into a manly and thinking student. He must train his mind to train his body. The next point is that of rhythmic motion. Rhythm is a law of muscular action. What is done rhythmically will be done always with more force and precision than that which is done irregularly. To acquire rhythmic action, form the habit of counting to yourself so as to time your motions. Count by fours — one, two, three, four; one, two, three, four — putting a slight stress on the one and the three, as *one*, two, *three*, four. Practicing to music is done in many gymnasiums, and it is a very excellent method of acquiring rhythmic action, but it is not always available, and any boy can count.

But all of these things and all of your practice will not avail when the final test comes, if you have never trained yourself to "go your limit." Did you ever reflect how far short we habitually fall of doing what we can do? I remember seeing a very timid and very sluggish boy run from a herd of cattle. How he ran, and straight up hill at that! You have no idea how fast you can run, because you do not force your body to do its utmost. You should not, as I have said, attempt to go your limit whenever you practice. That will use up your reserve vitality, which should remain as a reserve for the critical moment. But you must learn how to go your limit. You must drive yourself relentlessly at times. Use your utmost will power to force your body to do more. Compel it, occasionally, to do its utmost. In this way it will become your servant and obey your commands. The success of many athletic trainers consists in their ability to inspire their pupils with this spirit of doing their utmost. Remember, however, that this is to be done but seldom. Otherwise you will "go stale," that is, lose your reserve vitality, and fail to respond when the test comes. But reserve strength

or vitality is of no use if you cannot call upon it in the hour of need. Neither is it of any use to be able to call upon it in the hour of need, if you have used it all up and it is not there to call upon. Wisdom in training, so that you will have your utmost reserve at your command, and so that it will be well stored up for the vital moment, is one of the great secrets of athletic success.

THE "A. A. A."

THE track athlete must stand on his own merits. The participant in games and sports depends more or less upon his team-mates, and from no game, however well ruled, is the element of chance eliminated. But the man who faces the starting line in a track event has an opportunity to show what he himself can do. For this reason it will always hold its attraction.

For professional athletics in America, there is no special organization, these events being, as a rule, under the auspices of some club of recognized standing.

Amateur athletics are under the supervision of the "A. A. A." That is the usual way of designating the American Amateur Athletic Association. The rules for the regulation of amateur sports are designed to save them from professionalism and dishonesty. There should be no objection to working under these rules, as it is manifestly to the interest of all that amateur athletics should not fall into the hands of professionals, who could easily travel from point to point and make a fine living by winning cups and prizes and arranging gambling pools.

The regulations are such that every recognized amateur event is under the supervision of an officer of the Association. It is not necessary that such an officer should be present at the meeting. He may appoint a local deputy for that purpose. But every detail of the games must comply with the rules of the Association. Not only are the events thus regulated, but the standing of individual athletes is also examined and assured. This is a great protection to the man who desires to "play fair." Anyone interested in athletics may easily "sign up" with the A. A. A. If he does so he must strictly obey the rules of the organization. He is not allowed to compete in events that are not recognized by the A. A. A. as regular. Any boy who wishes to sign up with the A. A. A. should send for application blanks to the nearest office of the Association. There is such an office in every large city. It will only be necessary to address a letter to the secretary of the Amateur Athletic Association, such and such a city. A letter so addressed is very sure to reach its destination. As the officers are continually changing, it is not possible to give more specific directions here, but these should be sufficient.

Most track athletes develop a specialty. While there are some very attractive prizes offered for all-round championships, even these are usually won by men who have some specialty and who win enough points in that specialty to cover their deficiencies in other directions. It is almost impossible to be good at everything. The most important events and some hints as to how to excel in them are given in the following pages.

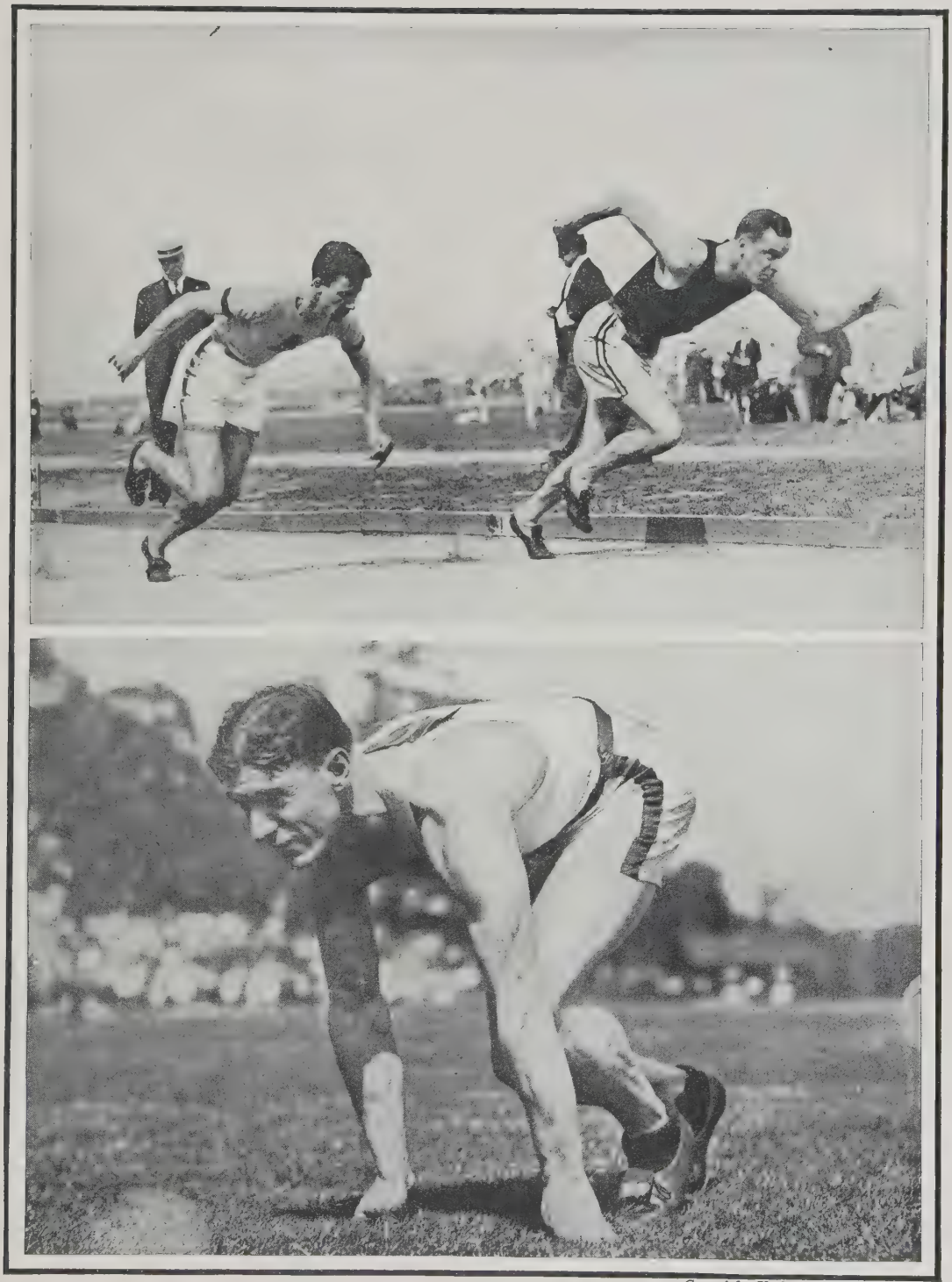
RUNNING

RUNNING is divided into sprinting and distance running. As the development of these requires different training, we shall speak of them separately.

SPRINTING

The events classed under this head are those that are run at top speed from beginning to end. They are the Hundred Yard and Two-hundred-and-twenty Yard Dashes, and even the Quarter Mile. This last is one of the most trying of all athletic events. It requires great endurance to maintain full speed for a distance of four hundred and forty yards.

In all sprinting there are two principal points to practice, the stride and the start. The shorter the race the more important, relatively, is the start. Sprints are usually run at the rate of about ten yards a second. That is to say, the runner covers one yard in about one tenth of a second. Now one tenth of a second is a very short space of time, and it is obvious that the slightest hesitation in starting will



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ABOVE: THE JUMP AT THE CRACK OF THE GUN COUNTS FOR MUCH IN THE SPRINTS. BELOW: WHEN "GET SET" IS CALLED, THE BODY IS THROWN FORWARD, AND THE MUSCLES ARE BRACED

occupy more than a tenth of a second and be quite sufficient to lose the race for the runner. But starting does not depend upon the actual getaway only. The quickness with which full speed is attained is equally important. The principle upon which starts are made is that the body will fall forward and force legs to come up with it. This has been so perfected that all runners start by practically the same method, and a runner who did not start in the accepted fashion would not have the ghost of a show in a sprint.

THE START

The body should be crouched low and supported on one foot that is well drawn up under the stomach. The other foot is about eighteen inches behind it and is well set in the earth, or floor. Of course spiked shoes are worn. The finger-tips are about one inch back of the starting line. This position is assumed when the starter says "On your mark." Then follows the word "Ready," which is a warning. Then the word "Set." At this word the body is thrown just enough forward to transfer a portion of the weight to the finger-tips so that when the finger-tips are raised from the ground the balance will be lost and the body pitch forward. This position can be maintained but a second, and the starter should instantly follow the word "Set" by the starting signal, which is usually a pistol-shot. At this signal the hands are raised and the body, thrown off its balance, plunges forward. At the same instant the foot that is behind gives a hard push and is then thrown strongly and smartly forward. Care should be taken not to throw it forward too far so as to make the first stride too long. One or two more short strides should follow to get the body well in motion before the full stride is reached.

THE STRIDE

Stride must be practiced by the sprinter quite as faithfully as is the start. Walter Christy, the great runner of a few years ago, averaged twelve feet to a stride when at full speed. But the stride should have the length that is best adapted to the build of the runner. No runner can hope to win a sprint against good runners with a stride of less than eight feet, when extended at speed. Practice a long stride, taken from the toes by a long leg and body swing. Try it at slow speed daily until the motion is a second nature. Great harm is done by speeding up before a correct motion is acquired. At speed the body of the untrained runner performs a great many motions that are a waste of strength and retard the speed. The only way to avoid this is to master the right motion by slow work first. Run on a piece of firm but springy earth, where the marks of your feet will show, and after running a few strides measure the length of the stride. If it is too short, study to find out where your fault lies. Head work counts. If a good coach cannot be secured to criticise you, a very good way is to find some friend with a small camera, and persuade him to snap you while running. By three or four snapshots of this sort you can detect the wasted motion and where you fall short. Perhaps you will discover that you are running stiff-legged without knowing it. Or you will discover that you have no hip motion, or no body swing, or no motion at the knee. All of these faults must be patiently corrected and the stride perfected until running in perfect form is a second nature and done as naturally as you breathe. Lift the knees high and throw the feet out. Swing so far at the hip that the body swings also. You will be astonished at the way in which your stride will lengthen out with a little practice.

THE BREATHING

A word is also necessary as to breathing. Take a deep inward breath just as you start and hold your breath until the full stride is reached; then expel it and take another and hold it for a few strides. Many good runners take only three breaths in a hundred yard dash. Four or five are enough for any full-sized person.

The body is more buoyant when the lungs are full of air. It is also easier to concentrate effort while holding the breath. But do not exaggerate. Many collapses at the end of a sprint are due to insufficient air in the lungs. Do not attempt to make a hundred yards on less than three full, deep breaths, and do not

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ABOVE: WINNING THE HALF-MILE, NOTE THE SMOOTH STRIDE. MIDDLE: HIGH HURDLES AT THE OLYMPIC TRY-OUTS. BELOW: THE FINISH OF A CLOSE HUNDRED YARD DASH

allow yourself to take more than five. This rule is for a full-grown youth with a stride of at least eight feet, and who can make the distance in not much over the ten seconds. For younger boys more breaths should be necessary, and they should not undertake to get along without eight or ten breaths for the distance. The arms should be extended forward to aid the body in pitching forward. The greatest and most common fault of sprinters is to lean back when at full speed. Study the photographs you see of good runners and you will find that many of the best are leaning backward toward the finish. This is wrong. It comes from exhaustion. A right use of your arms will aid you to keep the body well pitched forward. The world's record for a hundred yard dash at present is nine and three-fifths seconds.

DISTANCE RUNNING

Distance running differs so much from sprinting that it is very seldom that the same runner is good at both. The usual distance runs are the One Mile, the Two Miles, and the Marathon, or long-distance race. The stride for distance running should have less action than that for sprinting, but it is a mistake to cultivate the gait that is little more than an extended walking gait. That is far more tiring than a freer running gait. Do not lift the knees quite as high as in sprinting, but lift them sufficiently to allow the lower leg to be well thrown out with each step. This motion gives additional length to the stride with the least expenditure of strength. Economy in exertion should be the aim of the distance runner. Study your stride and make its length that which is best suited to your length of leg, for you cannot spring, or throw your body forward as in sprinting, nor can you travel with sufficient speed to give your body any appreciable momentum. Such a speed could not be maintained for distance runs. Your gait must be an easy, free action, with a stride that depends for length on the forward kick of the lower leg rather than on the spring, or push, of the supporting leg.

Having acquired a good easy stride of some length and one that can be maintained without too much fatigue, the runner must turn his attention to his breathing. Breathing must be absolutely rhythmic, long, and deep. Time your breathing to your stride. Do not hold your breath, but take very deep breaths. It is the oxygen in your lungs that expels the fatigue poisons. The great difficulty with breathing through the mouth is that it is apt to be done in gasps. Your breathing must be even, long, and slow. Take deep breaths even when your exertion does not seem to compel you to. Such breathing is restful. It prevents fatigue. The action of the heart depends very largely upon the regularity of the breathing. If you breathe irregularly and in short, quick gasps, you will soon have your heart overworking and beating like a trip hammer. And right here a word of caution. Do not undertake distance running unless your heart is right. It is very dangerous for a person with a weak heart. Here is another important point much neglected by distance runners. Do not dress too lightly, particularly if the weather is cool. Much of the fatigue poison is driven off by free perspiration. If this is interfered with by chilling the skin so that the pores close, as they will if exposed too much, the entire labor of respiration is thrown upon the heart and lungs.

Marathon runners make a great mistake in this respect, even those that are experienced. They do not seem to realize that the free perspiration of the body is a relief to the heart. If you will run the same distance clothed so as to keep the body warm and the pores open, and then run it again with the body chilled and exposed, you will find that your breathing is much more easy and free when warmly clad. The cooler the weather the more important is this point.

THE EFFECTIVE PACE

Having drilled yourself in these points, the next that needs study is pace. The distance runner must learn to judge pace — both his own and that of his competitor. Suppose, for example, that you are running a Marathon. The standard time for the distance, let us say, is two hours. Your pace, to accomplish the distance in that time, must average ten miles an hour. Now it is more than probable that

you will be running alone, or near to someone who is running unwisely, that is, either too slow or too fast. You must be able to hold the pace that is best suited to winning that race, and not be deceived by the way in which the others are running. To do this, you must be able to judge how fast they are running and how fast you are running. It will require much training to teach yourself this. The best distance runners are those who have learned it thoroughly.

DANGER OF SPURTING

Having acquired a good stride and distance running gait, a correct habit of rhythmic breathing, and learned to judge pace, you must slowly and gradually accustom yourself to the distance to be run. Each race is a campaign to be thought out in advance. If it is run on a track you must decide just how fast you intend to run each lap, and that plan must depend upon your competitors and the time that must be made. A steady gait, accelerated a little toward the end, is the winning stride. Spurts are bad. Do not allow yourself to be drawn into a spurt by your opponents. It is a very common thing for the competitors to combine against some feared runner and attempt to exhaust him by forcing him into spurts. The runner should never allow himself to be led on in this way. If his knowledge of pace is good, he can readily tell whether or not he is running a winning or a losing race. A spurt should be saved for the finish, for often it is the runner that has the last spurt in him that wins out. Do not begin to spurt until you are sure that you can maintain the increased speed to the finish. The last eighty yards are usually enough to allow for a spurt. All spurting before the home stretch is a losing proposition. But nothing

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IN THE RELAY RACE THE FRESH RUNNER CAN HARDLY WAIT FOR HIS SPENT TEAM-MATE TO SLAP HIS HAND AND THUS SEND HIM ON HIS WAY. IN OLYMPIC MEETS A SHORT STAFF MUST BE PASSED FROM HAND TO HAND

can be worse than to be running a little too slow throughout the race. This will leave you an impossible task at the end. Your knowledge of pace must save you from this fault. The subject of training is very important for distance

Photo, American Press Association

MAKING A BROAD JUMP IN PERFECT FORM

running, but this subject is treated at length elsewhere in this work. The important thing is not to overtrain. The stomach should not be loaded before a run, neither should it be too empty. A small piece of broiled steak, or other easily digested and nourishing food, should be taken about one hour before the race.

The feet must be well protected. Running with the soles of the feet, and particularly the heels, unprotected from the steady beat of the running will cause rapid exhaustion. It is a good idea to fit an inner sole to your running shoes, as this point is not sufficiently guarded by the manufacturers. Few runners realize how much hammered-out feet can contribute to exhaustion. So also the habit of clinching the fists too tightly is a source of exhaustion. Remember that any muscle that becomes exhausted contributes its share to your undoing.

JUMPING

JUMPING as a track sport is divided into the Broad, High, Running, and Standing Jump. The standing jump is rarely introduced into athletic meets, and but little need be said about it. As a gymnasium exercise it is in common use, and is considered an important step in training for the running jumps, notwithstanding the fact that the action is somewhat dissimilar, especially in the broad jump. In the running jump the spring is made from one foot, while in the standing jump it is made from both feet. We will now describe the running jumps, as slight modifications will readily enable you to work upon standing jumps.

THE BROAD JUMP

The action in this jump may be divided into the run, the take-off, the spring, and the landing. The run is of the utmost importance. It should be of just sufficient length to reach full speed. Any additional distance is a waste of energy. Therefore, the more quickly the jumper can reach his full speed at running the more strength will he have for his spring. The ideal in the preparatory run is that the jumper should reach the take-off at the top of his speed and in such a manner that he does not need to check himself in the slightest degree before making his spring. In order to do this, he must carefully regulate his stride so that the foot will fall naturally on the take-off at the last step. Now, if in order to do this he must hesitate and alter the length of his stride, he has lost all of the advantage of his run. He must, therefore, practice his run until it becomes automatic. When it comes to an actual competition jump, he should not think of his run at all. It should take care of itself. Most jumpers fail

at this point in spite of long and studious practice. And yet it is the simplest thing in the world to acquire if properly done. The secret lies in the method of training.

THE AUTOMATIC PRINCIPLE

Remember that your body is a self-adjusting machine. Whatever you can teach it to do automatically will be done with great nicety. Do not throw away that advantage and seek to replace it with conscious direction. That is to invite failure. Few trainers realize this important truth. Practice running toward a line plainly marked in the ground in such a manner that your foot will fall accurately upon it as you run, without breaking your stride. Do not always practice at the same distance. This is the great error made by most trainers in teaching the broad jump. Vary the distance constantly. By so doing the eye and muscles become gradually coördinated so that they work together, just as the eye and hand of a piano player do. It may require long and patient practice to accomplish this, just as it does for the musician to accomplish the same thing, in principle. Gradually, however, you will find that it becomes easier and easier for you to make that foot fall squarely on the line every time. And it will make no difference what the actual distance is, so long as the eye can plainly see the mark. For the eye automatically makes the proper measurement and the stride adjusts itself to it. For the accomplishment of this, a few minutes every day is much better than a longer time at irregular intervals.

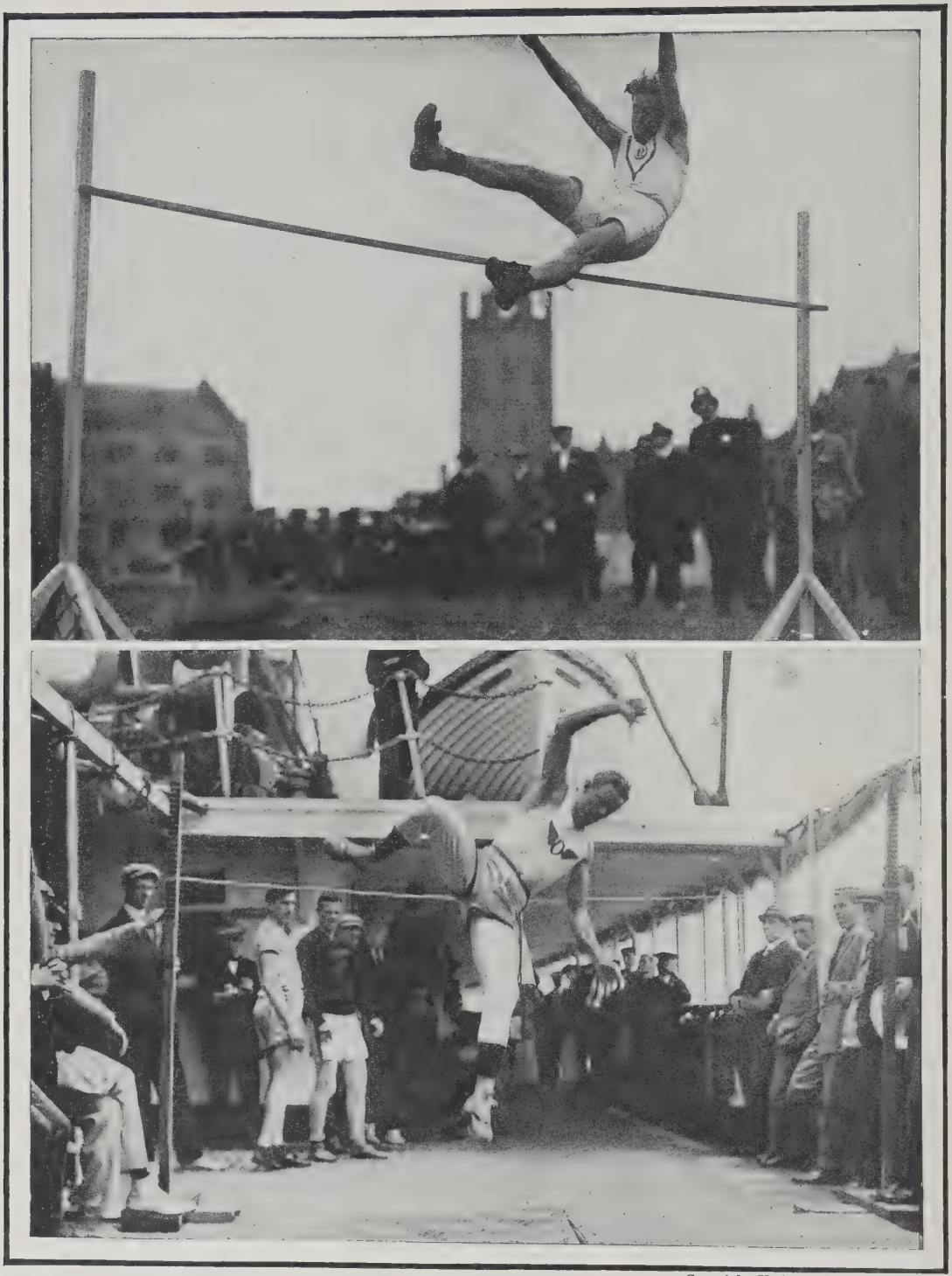
The human body is a creature of habit, and, in order to teach it a habit, regularity is necessary. Many jumpers will be seen carefully measuring their distance by pacing it off, and even with a tape measure, before a competitive jump. Then, when it comes to the test, they fail, although they have been practicing that distance for months, perhaps for years. Why have they failed at the crucial moment? Because they have not trained the eye to do its work automatically. They have leaned on that measured distance. As a result, the slightest deflection, or irregularity of surface, or even their own mental nervousness causing them to make a single false motion, throws them out and they reach the take-off a little out of stride. If the eye had been properly trained to make its own adjustments, it would have recovered automatically from any such slip, and reached the take-off in perfect stride.

HOW TO MAKE THE SPRING

I have given much space to this discussion, for it is vitally important. Having trained yourself to run to a mark, or take-off, so that you will reach it in exact stride, no matter what the distance may be, you are ready to try the spring. The spring is made always from the same foot, but that may be whichever is most natural for the jumper. With most jumpers it will be the right foot. The body is lowered and lurched forward at the same instant that the foot strikes the take-off. Then, as the powerful kick of the leg is made, it is snapped upward, giving an upward tendency, and the hands are thrown forward to their fullest extent. The legs, immediately after the kick, or spring, are raised as high as can be. The idea is to give the body the greatest possible distance in which to fall. In other words, the higher the jump the farther it will be, for if the run is unchecked at the take-off the momentum thus acquired will carry the body forward with great force. If you are curious to know how great this force is, just run at full speed against any object. The impact will knock you senseless — if you are so senseless as actually to try it. Trust to this momentum, therefore, to make your distance in your jump, and let it be the duty of the spring to keep you clear of the ground.

HOW TO LAND

A good broad jumper is nearly as high from the ground at the middle of his jump as a high jumper is in crossing the bar. With his arms extended and his feet reaching forward, he is traveling through the air in the shape of a letter U with the opening toward the front. Now for the landing. As he feels himself coming down, he should dive toward the ground head foremost, exactly as if he intended to dive into a pool of water. There is no danger that he will fall on his head. Indeed, the real danger



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TOP: WINNING THE HIGH JUMP. BOTTOM: A HIGH JUMPER, PRACTICING ON BOARD SHIP ON HIS WAY TO THE OLYMPIC GAMES

is just the opposite — that he will not dive forward sufficiently to prevent his falling on his back. Such an accident will shorten the length of his jump by the entire distance that his body extends backward on the ground — a most disconcerting accident.

Try to fall forward in landing. You will not be able to do so. But if you dive hard enough, you will be able just to save yourself from falling backward. This forward dive will also add several inches to your jump, and in a close competition even the half-inches count. Have your photograph taken, if you can, at your spring, in mid-air, and at your landing. You will thus see your faults and be able to practice intelligently toward their correction. The world record for the broad jump is twenty-four feet eleven and three-quarters inches.

THE HIGH JUMP

Much that is said here of the broad jump is true also of the high jump. High jumping is less dependent upon the momentum acquired by the run, and more upon the action of getting the legs out of the way. There are two main styles of jumping, the straight forward and the "scissors." The scissors is the most easily learned, but it lacks spring, and therefore never reaches the height of the straight forward jump. No great jumper uses the scissors jump. However, it usually wins in schoolboy competitions, as it is so easily learned. The run up to the bar, in this style, is made from one side. The jump itself consists in two successive high kicks, one with each leg. The bar is in reality straddled and the body lifted but a little by the spring. The longer the legs of the jumper the higher will he jump, if such a motion can be called jumping. I have never heard of a scissors-jumper going above five feet six, while regular jumpers go more than a foot higher.

The straight jump is performed by making a real spring upward and gathering the feet out of the way. This is sometimes done by lifting them together to one side, and, as it were, rolling over the bar, and alighting with the face toward the bar, and sometimes by kicking them straight up and going over the bar with a modified scissors motion. The first is the most perfect jump and, if mastered, will make the best record. But it is difficult to master. The motions must be very rhythmic, and perfectly timed. The take-off for the straight forward jump must be farther from the bar than in the scissors or modified scissors. But this has the advantages of giving more time in which to lift the legs clear of the bar and of utilizing to better advantage the momentum of the run. This momentum is, of course, a forward motion, and it can only partially be turned into an upward motion. It will help to convert this into an upward momentum to run with the body very low, in a crouching position, and snapping it upward simultaneously with the spring. Remember that you can destroy the spring of your muscles by overexertion. Practice at very moderate heights. Practice for form only. Condition yourself by running and other exercises. Try your highest jump but seldom. Reserve your spring for the time when it is needed. Mental attitude is important. Never let yourself think that you cannot do it. Believe in your ability to get over that bar. The world record is now six feet seven inches. But it is said that a tribe of Indians in South America are the most wonderful jumpers in the world and that they frequently jump eight feet. What one man can do, others can also do. So we may look to see this record raised in years to come. Who will be the man to do it?

POLE VAULTING

THIS is a very spectacular event and always popular. The height jumped never fails to cause a thrill. There are some dangers associated with the exercise, and those attempting it should take every precaution to overcome these. The first danger is that of breaking a pole. The best poles are made of bamboo, as this wood will not splinter if it does break, and the worst accidents have happened from the splintered ends of broken poles entering the body. Poles are made in fourteen, sixteen, and eighteen-foot lengths. A good bamboo pole can be bought for about four dollars. A spruce pole can be made by any carpenter or by any boy at all handy with

tools. It should be at least three inches in diameter and of very clear, straight-grained timber. The end should be protected by an iron ferrule. Too long a pole is difficult to handle and too short a pole will soon be outgrown. A sixteen-foot pole is the most advisable length to buy. Few jumpers will outgrow that length, and it is certain to meet all requirements for a long time.

As in all running jumps, the effort is to throw the whole momentum of the run into the jump. The pole should be grasped with the hands wide apart and the fingers toward the jumper. This seems like a weak way of holding it, but the reason will soon appear. The greatest strain on the wrists comes when the body turns to go over the pole, and it is necessary so to hold the pole that the hands will be in the strongest position when this turn is made. The run, as in a broad jump, should be of just sufficient length to attain full speed. A hole should be dug in the ground about one foot in front of the bar. This is to prevent the slipping of the pole, and it should be no deeper or larger than necessary to accomplish that end. That will be about eight inches deep and as many in diameter at the top.

Grasping the pole so that the upper hand is a few inches above the height at which the bar is set, and with the lower hand three feet below that, the jumper runs rapidly forward and places the end of the pole in the hole prepared for it, at the same time leaping upward and forward and raising his weight with his arms and the aid of the pole. As he is near the top of his spring, he slides his lower hand up until it meets the upper hand, and lifting his feet as much as possible, swings himself over the bar. The instant the body crosses the bar, the pole must be dropped, and the arms raised above the head so as to aid in an easy descent. The ground where the jumper alights should be dug up loosely, so as to make as soft a landing as possible. For in the landing lies the second danger of pole vaulting. It is very important to learn to alight well on your feet. If you do not master this you are liable at any time to a bad fall that may result in broken bones. Pole vaulting, like all jumping, should be practiced at low heights. At first set the bar at about five feet. Anyone can jump that height with the aid of a pole. You will not be required to make much exertion to do so. Your entire effort can go into the drill of your motions. Try to raise your body so that your chin is nearly level with your hands, as in chinning yourself on a horizontal bar. Now attempt to turn so that you alight facing the bar. Make this turn just as you go over, so that you will seem to roll over the bar. Attempt to raise your feet sideways to the level of your hands and a little above.

Try to let go of the pole so that it will not touch the bar. A good pole vaulter is able to throw his feet almost straight over his head, so that his hands are down and his feet up as he goes over the bar. The more perfectly you can accomplish this motion, the less will be demanded in the way of a spring. Do not imagine that you can reach perfection in one day's practice. You will do well if you learn to go over the bar without striking it with some part of your body or the pole. Increase the height only after mastering the correct motion, and then very slightly. Rarely attempt, even when quite proficient, to jump your greatest height. Perfection of form is always the winning card. You will gain rather by under-exertion than by over-exertion. But on this subject I shall have something to say at the conclusion of the article. Again let me urge you to have a photograph taken of yourself in action at various points of the jump. In this way you will detect your faults. You will probably discover that you are not raising your feet as high as you thought. If you understand the old-fashioned boy's handspring, you have the motion required, only with this addition, that at the top, as you start to descend, you turn in the air so as to face the bar in descending. What you do in pole vaulting is to turn a handspring with the pole instead of the ground as a support. I think that this will make the whole idea clear to most boys. The rest is practice. How high, you will ask, ought you to be able to jump? Well, the world's record is sixteen feet. The average college meet is won by jumps of twelve feet; school meets are won by jumps of ten and eleven feet. Beginners rarely jump over eight or nine feet, even after acquiring the motion. You should be satisfied with five or six feet for practice at first, and after the

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A WORLD'S RECORD POLE VAULT BEING MADE BY AN AMERICAN COLLEGE MAN

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HAMMER THROWING AT OXFORD

FINISH OF QUARTER-MILE RACE, CAMBRIDGE

motion is acquired practice at eight feet. Only occasionally attempt to go higher, merely to see what progress you are making.

SHOT PUTTING

THIS is an old Saxon sport, and has held its popularity largely because it gives an opportunity to the boy or man who is too heavily built for most forms of athletics. The shot used is usually sixteen-pound weight. Putting is not throwing. If you attempted to throw a sixteen-pound weight, you would probably come off with a very lame shoulder. Putting, on the other hand, will strengthen and not hurt your arm and shoulder. The ball, or shot bag, is held in the open palm, which is raised so as to rest on the shoulder. The hand is held palm upward and the shot rests in it. Now balance yourself on one foot, leaning well back, and giving your body a swing by throwing the free foot around in front of you, step forward, and push the shot up and out, keeping the weight of the body back of and under it. In a competition, a circle six feet in diameter is drawn, and the putter must stand within this circle. Therefore it will be best always to practice within such a circle. The secret lies in getting the weight of your body as well as the strength of the biceps back of the push. The angle at which the shot is delivered from the hand is important. The farthest distance will be attained by a shot that is put at an angle of forty-five degrees. Higher than this will certainly fall short. Lower than forty-five degrees will fall quickly and roll, but unfortunately the roll does not count. The point where the shot strikes is the pin-point that is measured. As in all athletics, attempt to acquire the correct motion without attempting to get distance. It is also well to use a lighter shot for practice, so that more practice may be indulged without exhaustion. Never practice too long. A lame arm comes back slowly, and a lame shoulder may stay by you for months. Regular, not severe, practice is the rule. What the body does daily is what it will do well.

SARGENT GYMNASIUM STUDENTS IN A TEAM EXHIBIT ON THE PARALLEL BARS

HOW TO TRAIN

TO train one's body to the point of "fitness" is most easily accomplished by means of systematic gymnasium practice; but a gymnasium is not always available. If one is fortunate enough to have access regularly to a good gymnasium, he should confer with the director or teacher and with his assistance arrange a course of exercises which will secure the desired result.

There are two ways in which the boy who does not have access to a gymnasium may give his body an all-round training such as the aspirant for athletic honors should have: (1) by means of a set of home exercises which do not require apparatus of any kind; (2) by means of pulleys (sometimes called chest weights) in his home. To obtain a well-trained body is both cheap and dear. It is cheap in money but costly in time, patience, and enthusiasm. But the results are easily worth all the expenditures that are made. Just to feel that every minute of every day is worth living is something which money cannot buy, and this is one of the results of training. Another reward for the boy's long hours of practice is the fact that he has made himself eligible to engage in such forms of athletics as football, hockey, baseball, polo, wrestling, and the like.

The suggestions given below are of three kinds: (1) general hints which apply to right living and are of special importance to the boy in training; (2) a set of home exercises which will take the place of a gymnasium training and which require no apparatus; (3) directions for using home pulleys so as to secure an all-round development. Physical development is based on the law of habit, which is that the regular doing of an action gives increased power in that direction.

I. GENERAL HINTS FOR RIGHT LIVING

These suggestions are based upon those prepared by Dr. Dudley A. Sargent of Harvard University for the use of students and others.

1. In order to realize the best results from physical exercise, enter with earnestness and enthusiasm into whatever you undertake.

2. When choosing a place for exercise, bear in mind that the chief requisites are plenty of light and fresh air.

3. If you have been inactive for a long time, confine yourself for a day or two to the simplest movements without weights.

4. Gradually increase the time and amount of exercise, but do not continue it to exhaustion, and always end as gradually as you begin.

5. Do not keep the muscles on the stretch. Relaxation should follow contraction, or, in other words, rest should follow exercise. The best way to secure local rest is to use the muscles of some other part of the body by a change of position or apparatus.

6. Do not try to accomplish your best work at feats of agility or strength until your blood is circulating freely and you are thoroughly warmed and limbered up.

7. The muscles should not be compressed by tight clothing.

8. Exercise daily and at regular times if possible. Do not exercise within two hours after eating or a half-hour before.

9. If overheated or fatigued, a gentle rubbing down with a Turkish towel will promote surface circulation and prevent taking cold.

10. Never reach the maximum of exercise until near the end of the season's training.

11. Reduce the time and amount of exercise gradually, allowing two weeks to elapse before going out of strict training.

12. At the end of six or eight months a complete change of work is advisable, alternating the regular system with other forms of exercise.

13. The best time for daily exercise is between 4 and 6 P. M.

14. Food should not be taken immediately after severe mental or physical exertion, nor should active exercise immediately follow a hearty meal.

15. Avoid food that is very cold or very hot. Eat slowly, masticate thoroughly, and swallow without drink.

16. Do not adhere to the same diet for too long a time. The system needs variety, but let it be a change from meal to meal and from day to day, rather than a succession of dishes at one meal.

17. After eating do not sit at a bench, desk, or table in such a manner as to restrict the movements of the ribs and diaphragm.

18. Drink after eating and not immediately before or during the meal. If very thirsty from prolonged exertion, rinse the mouth and take a few swallows of water. Then wait for fifteen or twenty minutes before drinking all you need.

19. Ascertain what should be your weight in proportion to your age, height, etc., and allow yourself to vary but a few pounds from the standard.

At Harvard the fitness of a candidate to enter the university athletic teams in football and rowing is determined by his ability to lift a weight equivalent to about four hundred pounds, with the back bent and the arms and legs straight; to lift a weight equivalent to five hundred pounds with the legs bent and back and arms straight; to close the hand on a resistance of at least one hundred pounds; to pull his own weight up by the arms ten times while hanging from a pair of rings; to raise his own weight ten times while supported between two parallel bars, and to show a lung capacity of about two hundred and seventy-five cubic inches. To work toward fulfilling these requirements might well be the ambition of every vigorous boy.

II. A SET OF HOME EXERCISES FOR AN ALL-ROUND TRAINING

The following twenty-six exercises are based on those prepared by Dr. Sargent, as a result of his wide experience, to give an all-round training. They may be performed by any boy in his own home without apparatus of any kind. All these should be done at one time and in the order given. At first, of course, the boy will try them a few at a time, but he should soon reach the point where he can do them all in order. The number of times that each exercise

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THE BEGINNING AND END OF THE SHOT PUT

These views show two players widely known for their work with the weights; one was a member of the American Olympic team at the Stockholm games.

should be repeated is given with the instructions, but as the boy gains strength and ease he should increase this until he has doubled or trebled it. These exercises bring into play all the muscles in such a way as to give an even development of the body.

Exercise 1. Adoration. Stand upright, heels together, with hands together, palm to palm, held just above the forehead. Throw the hands and forearms backward but not violently, until the elbows are shoulder-high and the palms face forward. Return to the first position, and repeat the movement. Do this twenty times at the rate of twenty times a minute.

This exercise will develop the muscles between the shoulder-blades that tend to hold the shoulders back.

2. Putting the shot. With the feet about twenty-four inches apart, throw the weight of the body onto the right leg; draw back the right arm, bending it at the elbow as though about to "put the shot." Hold the left arm extended. Shoot the right arm forward vigorously, changing the weight of the body from the right leg to the left leg. As the right arm shoots upward, let the left fall to the body. Try the same exercise with the left arm and leg. Do this ten times and put as much energy as possible into the movements of the leg, arm, and body, but be sure to keep both feet on the floor.

This exercise develops the extensor muscles on the front of the thighs, the calves of the legs, the chest, both arms, and the sides of the abdomen, back, and waist.

3. Wood chopping. Stand with the feet about eighteen inches apart. Clasp the hands and raise them over the right shoulder, then swing the arms downward between the legs. Repeat the movement, starting with the hands thrown over the left shoulder. Alternate ten times.

This exercise develops chiefly the muscles of the lower back, the right and left abdominal walls, and the upper arms and shoulders.

4. Standing start. Stand with the feet about twenty-four inches apart, the right leg advanced, the right arm extended forward and upward, and the left arm extended downward and backward. From this position swing the right arm downward and backward and the left arm forward and upward. At the same time spring from the position of right leg forward to that of left leg forward. Do this twenty times at the rate of thirty-two times a minute. Take care to keep the arms perfectly straight and to throw most of the weight upon the leg which is advanced forward.

This is a splendid exercise for the respiration and circulation. It brings into play the shoulders, upper back, the arms, and chest; also the oblique muscles on the sides of the abdomen, and the extensors and flexors of thighs and legs.

5. The steamboat. Take a position with the feet about thirty inches apart and the weight on the right leg, which is turned toward the right. The body is bent to the right, the right arm extended perpendicularly downward with fingers near the floor and the left arm raised so that it is also perpendicular to the floor. From this position swing the body over into the opposite position by straightening the right leg, bringing the trunk into an upright position, and throwing the weight upon the left leg. This brings the left hand near the floor and the right arm into an upright perpendicular position. Then return to the first position. Do this fifteen times at the rate of ten times a minute. Take care always to move the arms and body together as one, and to shift the weight alternately from one leg to the other.

The parts of the body affected by this exercise are the extensors of the legs, the abductors of the thighs, and the muscles of the arms and shoulders, neck, waist, abdomen, back, and hips.

6. Boxing. Stand with the feet about twenty-four inches apart, the right foot advanced and the weight on the left leg. Hold the left arm bent at right angles across the front of the neck and the right arm extended rigidly downward and back, the fingers clinched. Without moving the feet, straighten the left leg, throw the weight forward upon the right leg, at the same time bringing the right forearm up opposite the neck and extending the left arm backward. Start with the left foot in advance and repeat the movements. Do this exercise twenty times at the rate of twelve times a minute. In changing the weight from one foot to the other, do not raise the heels from the floor.

This exercise affects chiefly the extensors and flexors of the legs and arms, and in a less degree the muscles of the shoulders, back, abdomen, and chest.

7. Sawing wood. Stand with the feet about twenty-four inches apart, hands clinched, and arms bent at the side so that the hands come just above the waist line. Incline the head and trunk forward, bending the knees and extending the arms downward until the hands come within six inches of the floor. Then bring the body to the first position by raising the head and trunk, and straightening the legs. Draw the hands up above the belt at the waist. Be sure that the back and legs are bent and straightened simultaneously. Remember that the arms are bent as the legs are straightened, and that the legs are bent as the arms are straightened. Do this exercise ten times at the rate of sixteen times a minute.

This exercise affects the extensor muscles of the back and legs, and to some extent the muscles of the arms, chest, neck, shoulders, and abdomen.

8. Throwing the hammer. Stand with the feet about eighteen inches apart, the body twisted to the right, and the arms extended downward and backward as if the hands were grasping the handle of a heavy hammer. From this position swing the arms forward and upward over the head and left shoulder, then around the back of the head and forward over the right shoulder. This movement should be circular throughout. The body should be swung around in a circle with the hips as a pivot, and the circle should be as large as possible without straining the muscles of the

abdomen. Try the same movement, starting from the left side. Alternate, doing this ten times at the rate of fifteen times a minute.

This exercise brings into play arms, shoulders, back, chest, abdomen, waist, hips, and legs.

9. The American eagle. Advance the left leg about forty inches beyond the right, and take a position with the body bent forward so that the fingers of both arms, which are held perpendicularly downward, touch the floor together at a point about three inches in front of the left foot. From this position, without changing the pose of the trunk and head, raise the arms outward and upward as far as possible. Let the hands descend to the floor again, and repeat the movement with the right foot in advance. Resume the upright position frequently to lessen the tension. Do the exercise ten times at the rate of twenty-one times a minute.

The parts of the body affected by this exercise are the posterior muscles of the shoulders, the muscles back of the neck and between the shoulder-blades, the extensors of the arms; also, in a less degree, the extensors of the legs and the erector spiral muscles.

10. Hurrah. Take a position with the feet twenty-four inches apart, the left forearm resting across the back, and the right arm extended well forward to the right. From this position swing the right arm around to the left up over the head, then back of the head and body around to the starting position. Then place the right forearm behind the back, and swing in the opposite direction with the left arm. Do this ten times at the rate of eight times a minute. Take pains to use the hips and loins as a pivot and to make a continuous circle with the body as well as with the arms.

This exercise affects the hips, waist, abdomen, loins, and thighs; also, somewhat, the muscles of the chest, shoulders, upper and lower back, and arms.

11. Clap under legs. Stand with the feet about twenty-four inches apart, the right leg a little forward, the arms over the head with backs of the hands touching. The body should be carried back of the erect position. From this position incline the body forward, bend the knees, bringing the arms downward and then toward the body between the legs until the hands touch. Then straighten the legs and back, and swing the arms outward and upward to the first position. Repeat the exercise with the left leg advanced. Do this ten times at the rate of ten times a minute.

This exercise develops the extensors of the back and legs, and the muscles of the chest, shoulders, neck, upper back, and abdomen.

12. The long pass. Stand with the feet twenty-four inches apart. Extend the right arm outward and backward as if grasping a football, and the left arm outward and upward to keep the balance. From this position swing the right arm, held rigidly straight, around diagonally forward and upward to the left, turning on the right foot and throwing the weight upon the left leg. The left arm must be swung backward and downward when the right arm is swung forward, and the whole body, including the right hip and the right thigh, should revolve more than a quarter of the way around on the left hip joint. Try the same exercise with the left arm, turning on the left foot. Do this ten times at the rate of ten times a minute.

This exercise affects the middle chest, shoulders, arms, and the oblique muscles of the abdomen; also the rotators of the thighs, and the extensors of the legs and feet which are on the front of the thighs and the calves.

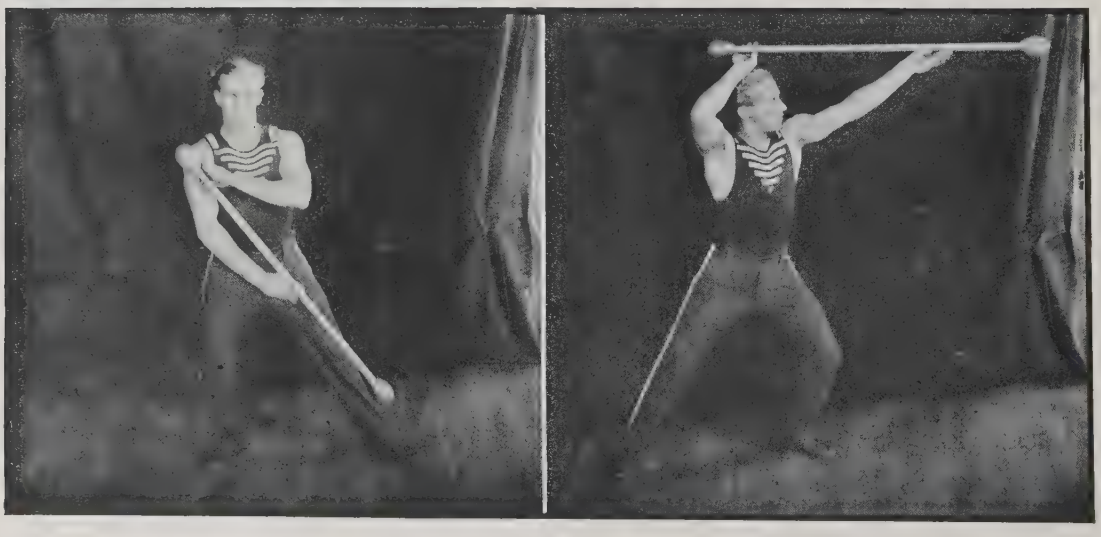
13. Crouching start. Stand with the right leg bent at the knee and about twenty-four inches in advance of the left leg. Lean forward so that the weight of the front part of the body is supported by the arms and hands resting on the floor. In this position shift the weight from the right leg to the left, and from the left to the right successively. See that the rear leg is fully extended (not bent at the knee), and that the front foot comes within at least twelve inches of the hands on the floor. Do this exercise twenty times at the rate of forty times a minute.

The parts of the body affected by this exercise are the extensor muscles on the back of the arms, the extensors and flexors of the thighs and legs, and the muscles of the chest and back of the neck.

14. The windmill. Stand with the feet together, the left arm extended horizontally forward, and the right arm extended backward in the same plane. Keeping the arms perfectly

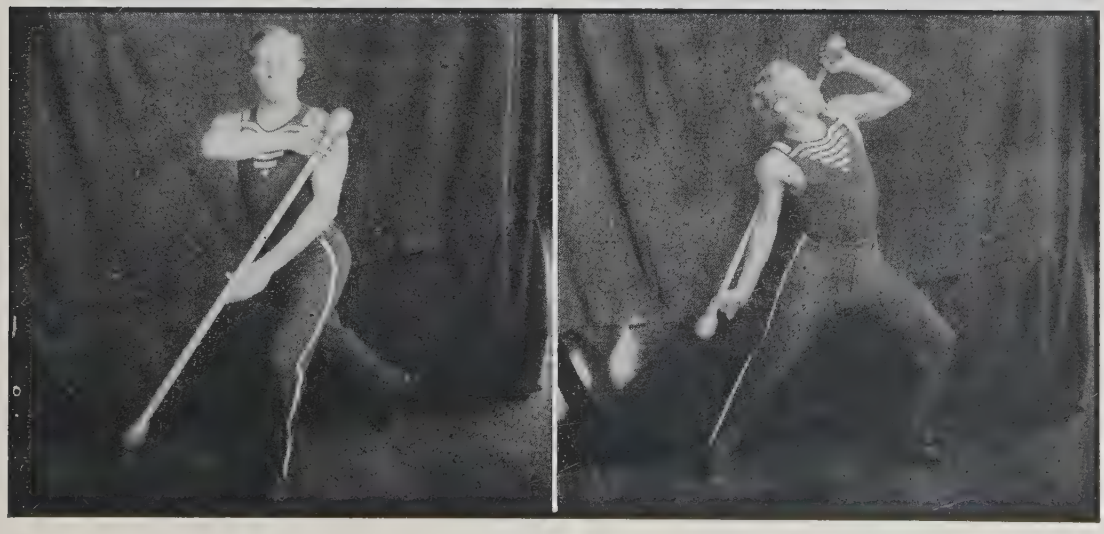
straight and in the same straight line with each other, by a circular movement bring the right arm to the place now occupied by the left arm and at the same time, as the body is turned, swing the left arm downward and backward in a circular movement to the position first held by the right arm. Repeat, and then reverse the movement. Do this ten times at the rate of sixteen times a minute. Through these movements keep both feet firmly on the floor and make the continuous circular movements of the arms in as nearly a perpendicular plane as possible.

This "Windmill" exercises the anterior, middle, and posterior part of the shoulders, upper chest,



upper back, and waist; also the rotators of the neck, trunk, and spine.

15. The grand bend. Take a position with the feet about eighteen inches apart, the body bent far forward, and the arms extended so that the fingers touch the floor between the heels. From this position carry the arms directly forward, upward, and backward, flexing the knees, hips, and ankles and bending the trunk as far back as possible. In this position the shape of the body from the tips of the outstretched hands to the heels is almost the letter U. Do not bend backward far enough to overstrain the abdomen muscles. Do this exercise five times.



Nearly all the muscles on the front and back of the body and legs are involved in this exercise, but the greatest strain comes upon the back and abdomen and the hamstring muscles back of the thigh.

16. The signal station. Stand erect with heels together, and the hands resting on the hips. Extend the right arm outward and upward to a perpendicular position, and at the same time extend the left leg sideways. The arm and leg should be raised simultaneously, and both should be kept as straight as possible. In lowering the arm, bring the hand down to the thigh and not to the hip. Alternate these movements with the left arm and right leg. Do this fifteen times at the rate of twenty times a minute.

In this exercise the muscles of natural and forced respiration are put on the stretch, the side diameters of the lower chest are increased, and the muscles of the middle shoulder and abductors of the thighs are brought most prominently into action.

17. Hoisting sail. Stand with the feet twenty-four inches apart, the legs slightly bent at the knee, the hands clinched, the right arm extended upward perpendicularly, and the left hand resting on the upper part of the left thigh. From this position pull downward with the right arm until the right fist rests on the right thigh, and at the same time push upward with the left arm until it is extended perpendicularly upward. Follow the upward-moving hand with the eye. Repeat these movements twenty times, alternating the position of arms and hands. See that each downward pull is accompanied with a bending of both knees. Sway the body to the right when the right arm is pulled down, and to the left when the left arm descends.

The large muscles in front of the thighs, the calves, the gluteal muscles, and also the extensors and flexors of the arms, the shoulders, chest, and oblique muscles of the abdomen — all are affected by this exercise.

18. Throwing the discus. Stand with the right foot about twenty-four inches in advance of the left foot. Swing the right arm around behind the body until it comes back of the left hip, turning the body in the same direction, and using the left arm to preserve the balance. From this position, starting with the weight on the right leg, swing the body and right arm vigorously to the left, springing from and turning upon the ball of the right foot until the right arm is fully extended upward and the weight is on the left leg. Repeat the movement; then reverse the position and swing with the left arm. Be sure to start the movement from the right leg and to use the left arm to help turn the body. Concentrate all the energy upon the final effort of the right arm. Do this exercise ten times at the rate of twelve times a minute.

This "Throwing the Discus" affects nearly all parts of the body in a mild degree, with special stress on the chest muscles, the oblique muscles of the abdomen, and the rotators of the spine, trunk, and legs.

19. Rowing. Stand with the feet about twenty-four inches apart, the right leg advanced and the arms bent at the elbow and held at the sides. Facing to the right, lunge forward, throw the weight of the body onto the right leg, bend the body, and extend the arms until the fingers touch the floor about twelve inches in front of the right foot. Return energetically to the starting position as if lifting a weight or pulling an oar. Alternate these movements with those started facing to the left with the left foot advanced. Keep both legs on the floor, bending the front leg as the body swings forward and the rear leg as the arms are brought back. Make the upward movement as steady and rhythmical as possible. Do this exercise ten times at the rate of sixteen times a minute.

20. Swimming on the back. Stand with the feet together, the arms extended downward in front of the body with the backs of the fingers touching. From this position sweep the arms upward and backward as far as possible. At the same time bend the head and body backward and carry the arms around and downward in a circle until the fingers touch in front of the body as in the first position. This exercise may be increased in severity by stepping back alternately with the right and left legs. Do this ten times at the rate of twelve times a minute.

The parts of the body affected are the muscles of the shoulders, upper chest, and abdomen, as well as the extensors and flexors of the head and

the muscles of the scapulæ that hold the shoulders back.

21. Mowing. From a position in which the feet are about eighteen inches apart and the right and left arms extended downward, bend the knees slightly and incline the body forward; at the same time sweep both arms around to the left and then raise the body to a vertical position. When doing this exercise keep the arms as straight as possible, turn the head and trunk when the arms are turned, and sway the hips over to the opposite side from which the arms are swinging.

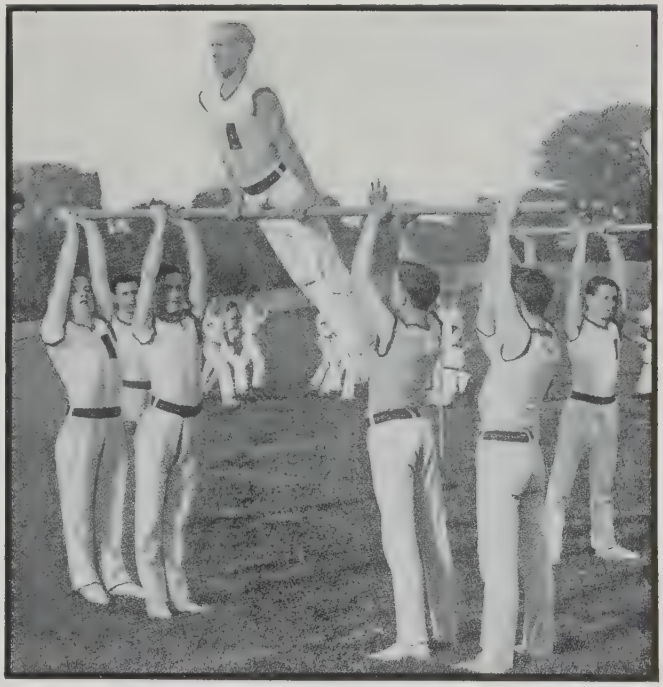
This exercise affects the anterior part of the shoulders, the middle chest, the broad muscles of the back, the oblique muscles of the abdomen, the sides of the waist, and the extensor muscles of the spine and legs.

22. Furling sail. Stand with the feet about twenty-four inches apart and the knees bent. Bend the body forward until the right fist touches the floor and place the left fist at the junction of the left hip and thigh. From this position pull the right fist up to the right hip, raising the body to an almost upright position and then at once extending the left fist to the floor while the right fist remains at the hip. See that the knees are bent with every downward movement and straightened with every upward movement, and that the arms and body act with the legs. Do this twenty times at the rate of twenty times a minute.

This exercise affects chiefly the extensors of the legs and the muscles of the lower back.

23. The fighting gladiator. Stand with the left foot about twenty-eight inches in advance of the right, with the weight on the right leg. Bend the arms at the elbow, clinch the hands, and hold the left forearm across the lower chest and the right forearm near the right side. From this position strike straight out from the shoulder with the right arm, at the same time extending the right leg and throwing the weight forward onto the left leg. As the right arm and side advance, the left arm and shoulder should be drawn back. Throughout these movements both feet remain upon the floor. Try the same movements with the right leg advanced and the position of the arms reversed. Do this twenty times at the rate of sixteen times a minute.

This exercise brings into play the extensor and flexor muscles of the legs and arms, the muscles of the calves, shoulders, chest, and upper back, and the side muscles of the abdomen which rotate the body.



TRIM, WELL-SET-UP GYMNASTS

24. Lower chest expander. Stand with the feet about thirty inches apart, the left leg advanced, the right arm folded across the back, and the left arm stretched downward until the fingers touch the floor about fifteen inches beyond the advanced foot. From this position straighten the left leg and bring the left arm upward and backward until it is stretched backward as far as possible. At the same time the body is brought into an upright position and then bent backward. In bending backward, take care not to bend too far at first and

OUTDOOR GYMNASTICS

Large classes of boys in training on athletic fields.

to have the supporting leg far enough in the rear to enable you to maintain a good balance. Be sure to keep the supporting arm behind the back and the extended arm as straight as possible. Do these movements ten times at the rate of eight times a minute.

This exercise is to stretch the muscles of the abdomen, elevate the ribs, and expand the lower part of the chest. The muscles of the neck, chest, shoulders, back, arms, and legs are brought powerfully into action.

25. Jumping jack. Stand erect with feet together and hands touching behind the back. Bend the knees and jump to the stride position with the feet about twenty-four inches apart, at the same time swinging the arms outward and upward until the backs of the hands touch over the head. Jump back to the first position, bringing the palms of the hands together behind the back. Repeat, first striking the hands behind the back, then in front of the body. Do this ten times at the rate of sixteen times a minute.

26. Restoration. Stand with the feet together, the face downward, the arms extended downward, and the backs of the hands touching. From this position raise the hands, arms, and elbows, keeping the backs of the hands together until they pass the chest and the face. Continue the movement upward until the hands separate above the head with the face turned upward, then bring them downward and outward in a large circle to the starting point. Begin to inhale as the arms are raised, and exhale slowly as the arms descend. Do this ten times at the rate of eight times a minute.

This exercise brings into gentle and sustained action the muscles of natural and forced respiration.

HOME CHEST WEIGHT EXERCISES

THE name "chest weight" is perhaps somewhat misleading as used here, for by means of this apparatus not only the muscles of the chest but those of the whole body may be exercised. This apparatus is comparatively inexpensive, and an enterprising boy with little money and considerable ingenuity can make himself a set. Care should be taken to secure the kind of apparatus which will admit of different weights being inserted, for the boy should start with a very light weight in the boxes and increase this gradually. (See p. 125.)

The exercises which follow were planned by Dr. Sargent. In the directions only the minimum number of times that an exercise should be performed has been given. Increase by fives as rapidly as is practicable. Where specific directions as to the number of times an exercise is to be performed are not given, the earlier directions hold.

After you have become familiar with the movements, do them every day in the order given here. Do them with energy and enthusiasm.

GENERAL DIRECTIONS FOR USING THE CHEST WEIGHTS

1. Grasp the handles, and stand far enough away from the apparatus to just clear the boxes from the rubber buffers before commencing the movement.

2. Keep the ropes straight, pull steadily, and do not allow the boxes to strike at the top or bottom.

3. The pulleys should be placed shoulder-high.

4. If the boxes strike at the top, step forward a little; if at the bottom, step backward.

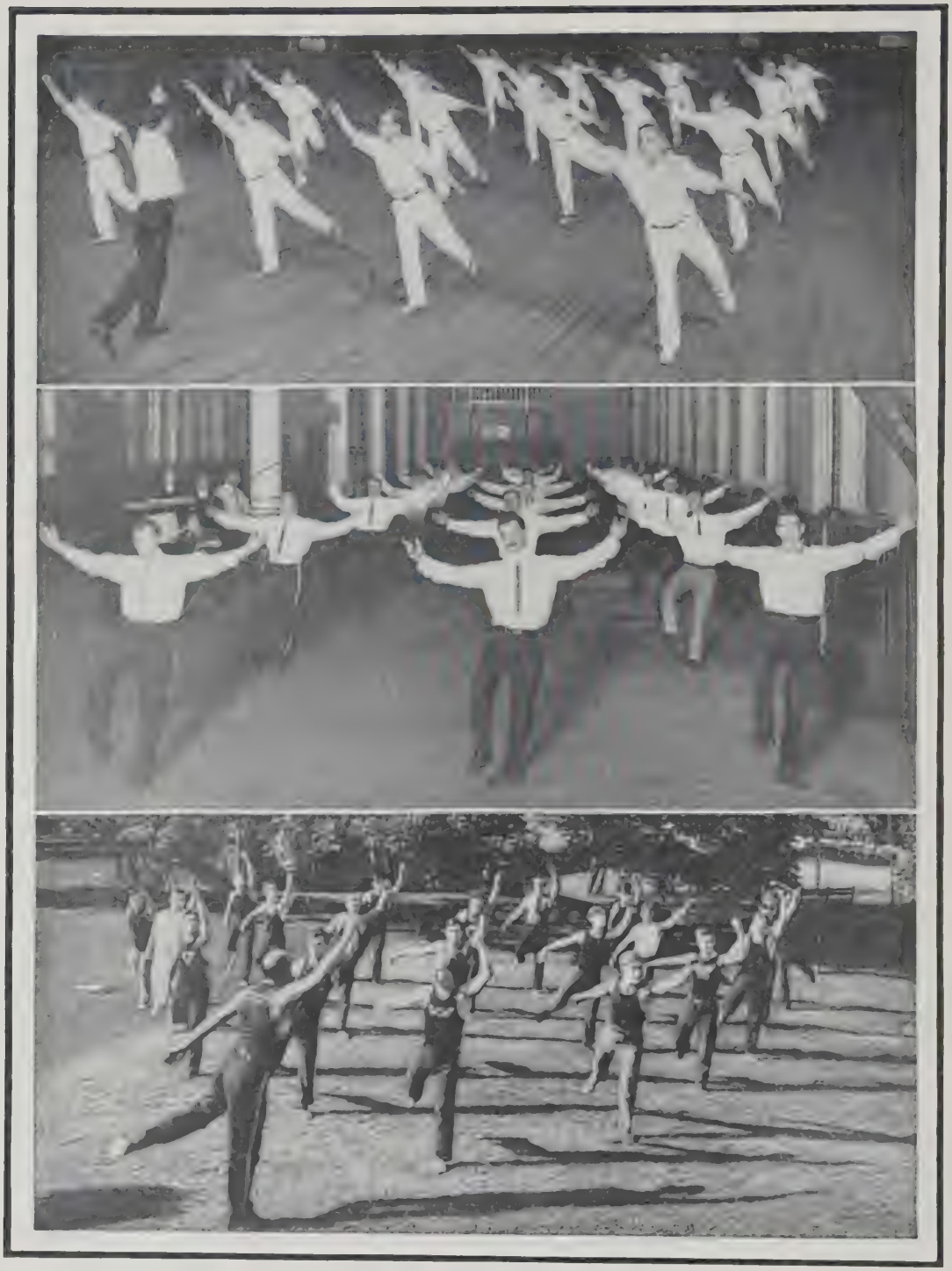
5. Stand with the feet together while executing the forward and backward movement with both hands.

6. After the exercise is finished do not release the grasp upon the handles until the weight boxes touch the buffers on the floor.

CHEST WEIGHT EXERCISES

1. Face the wall, head erect, shoulders back, feet together, arms extended forward, the hands grasping the handles perpendicularly. Pull straight back until the handles nearly touch the shoulders, first with the left hand and then with the right. Do this five times at the rate of twenty-five times a minute.

2. Stand as in Exercise 1. Bring the left arm straight down to the side, the handle just passing the thigh, then the right arm, and so on



LEARNING GRACE IN MOVEMENT

Dancing has become a recognized part of physical training. It helps to build nimble, alert, well-balanced bodies; and incidentally there is much strenuous work in it.

alternately. Do this five times at the rate of twenty-five times a minute.

3. Stand as in Exercise 1, but with the body bent slightly backward and the arms held outstretched with the palms upward. Alternately bend the arms so that the handles are brought over the shoulders — the elbows being drawn in at the side. Do this five times at the rate of twenty-five times a minute.

4. Stand erect, feet together, with back toward the wall. Hold the handles so that they are perpendicular to the floor and so that the top of the handle is level with the top of the shoulder. Extend both arms straight forward, at the same time keeping them shoulder-high, the legs held stiff, and the chest thrown out. Do this at the same rate as called for in preceding exercises.

5. Stand with the back toward the wall, the arms extended downward and backward, with palms (fists) away from the wall, and handles horizontal. Bring both arms forward and downward together until the hands pass the thighs. Be sure to keep the arms straight, and head and shoulders well thrown back. This is to be done the same number of times as the preceding exercises.

6. Bring the handles over the shoulders just back of the head, the palms inward, and the handles horizontal. With both arms moving together, bring them directly forward, the elbows shoulder-high, the handles horizontal, and the palms forward. Resist the tendency to bend the body backward.

7. Stand with the left side toward the wall, the right hand on the right hip and the palm in, the left hand horizontal and the hand grasping the handle with palm down and the arm extended its full length. Bring the arm straight down to the side so that it is perpendicular to the floor. Then reverse the position of the body and use the right arm. Do each of these movements five times at the rate of twenty-five times a minute.

8. Stand with the right side toward the wall, the right arm hanging at the side. Hold the left arm behind the back, the elbow bent so that the forearm lies against the waist line. The handle should be horizontal. Extend the left arm six inches beyond the left thigh, straightening it as it passes outward. Reverse the position, using the right arm. Do each movement five times at the rate of twenty-five times a minute.

9. Stand with the right side toward the wall, the right arm hanging idle. Hold the left hand behind the head, grasping the handle with the palm in and the handle perpendicular. Extend the left arm straight out, shoulder-high, bringing the palm downward and the handle horizontal. Reverse the position, using the right arm.

10. Stand with the left side toward the wall and the left arm at the side. Hold the handle perpendicularly in the right hand, the palm in, and the forearm horizontally across the front of the body. The movement starts with the handle just in front of the left arm. Pull the handle to the right until the elbow is shoulder-high and the upper arm is horizontal. Reverse the position, using the left arm.

11. Face the wall; hold the palms down and the handles horizontal. Using both arms at the same time, bring the handles to the knees, keeping the arms straight but bending the body forward from the waist. Then turn the palms upward and bring the hands in a curve over the shoulders and straighten the body. This exercise consists of two separate movements. Do these ten times.

12. Face the wall, grasping both handles so that the palms face downward. Bring the handles back to the shoulders with the elbows shoulder-high and bending outward. Do this five times at the rate of twenty times a minute.

13. Face the wall. Extend the right arm upward with the handle horizontal and the palm facing the wall, and the left arm perpendicularly downward with the handle horizontal and the palm outward. The movement consists in changing the position of the arms so that the right arm is stretched downward and the left upward.

14. Stand with the left side toward the wall, and the left arm stretched toward the wall with the handle held horizontally and the palm turned downward. Extend the left arm in front of the waist and hold the handle in a perpendicular position with the palm toward the body. Keeping the left arm straight, bring it down to the side; bring the right forearm upward past the chin into a perpendicular position, keeping

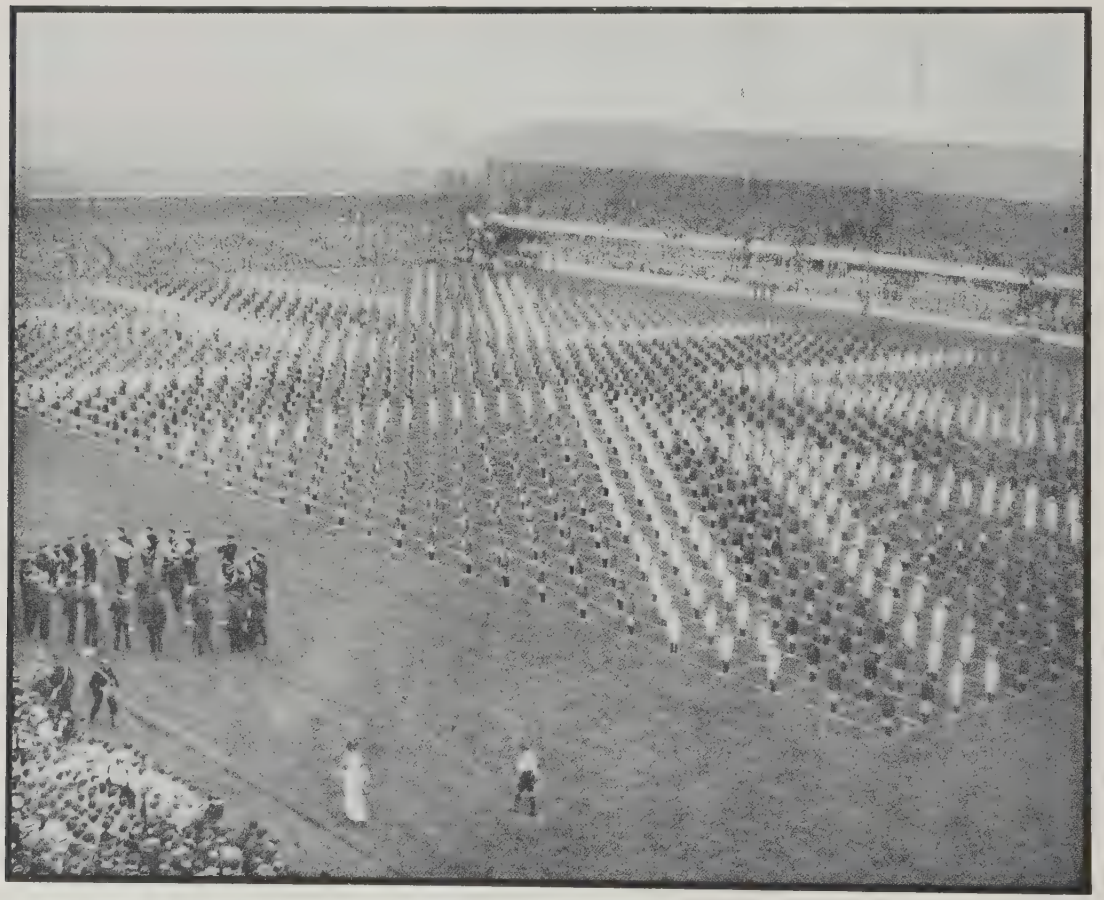
the handle always perpendicular. Reverse the position and the movements. Do this five times at the rate of twenty times a minute.

15. Stand with the left side toward the wall. Take the right handle, held horizontally, in the left hand, and the left handle, held perpendicularly, in the right hand. Hold the right hand back of the head and to the right, the left hand in front of the body with the elbow at the side. Extend the right arm outward to a horizontal position, and the left arm diagonally downward. Reverse the position and the movements.

16. Stand with the left side toward the wall; hold the right hand behind the back, waist-high, with palm upward, and the left hand extended downward in front of the body with palm turned inward. Straighten the right arm, and carry the left hand diagonally upward across the face. Reverse the position and movements.

17. Stand with the back toward the wall, the arms raised shoulder-high, the elbows bent so that the wrists almost touch the body. Hold the handles horizontally with the hands toward the wall and palms upward. Bend the body forward slightly. Extend the arms forward as far as possible, thus bringing the ropes under the arms, and straighten the body.

18. Stand with back toward the wall, the right arm and the palm extended upward. Extend the left arm downward and backward so that the hand is in the same plane as the hip, and hold the handle horizontally. Simultaneously move the right arm outward and downward, and the left arm inward and forward,



HERE ARE TWO THOUSAND ENGLISH BOY-GYMNASTS, DRESSED IN COSTUMES OF DIFFERENT COLORS AND SO ARRANGED AS TO REPRESENT THE UNION JACK OF ENGLAND

holding both straight. Reverse the positions of the arms and repeat.

19. Face the wall with arms extended straight forward, holding the handles horizontally and the palms downward. Keep the arms straight and bend at the hips and knees until the arms pass between the legs. Return to the original position and bring the handles high above the shoulders, keeping the arms straight and bending the body slightly backward. Do this exercise and all succeeding exercises ten times each.

20. Stand with the back toward the wall, the arms bent at the elbow, and the hands in front of the body just above the shoulders. Extend the arms directly forward and return to position, flexing the wrist as the handles approach the shoulders and straightening them as the arms are extended.

21. Stand with back toward the wall; grasp the handles with thumbs up and hold them close to the shoulders. Extend the left arm forward and upward, and as the left is returning to position, extend the right. Continue alternately.

22. Stand with back to the wall; grasp the handles with thumbs upward and hold the arms extended horizontally outward. Bring the arms forward, describing the arc of a circle, until the hands are in front of the shoulders. Then let them sweep slowly backward to position in the same horizontal plane.

23. Stand with the left side toward the wall and the feet about twenty inches apart; grasp the right handle with the right hand, the thumb upward and the arm extended. Let the left hand, without a handle, rest on the left hip. Sweep the right arm horizontally backward until it is extended at the right side. Return it to position in the same horizontal plane and repeat, alternately flexing and extending the legs.

24. Stand facing the wall; grasp the handles with thumbs inward and both arms extended horizontally forward. Bring the right arm outward and downward and at the same time sweep the left arm backward horizontally until it is extended at the left side. Keep the arms straight at the elbows. Reverse the position and movements.

25. Stand facing the wall; grasp the handles with thumbs upward and the arms extended horizontally forward. Bring the left handle to the right elbow, and at the same time carry the right handle under the left forearm to the left elbow. Return to position, and bring the right arm over the left forearm to the left elbow and at the same time carry the left handle under the right forearm to the left elbow.

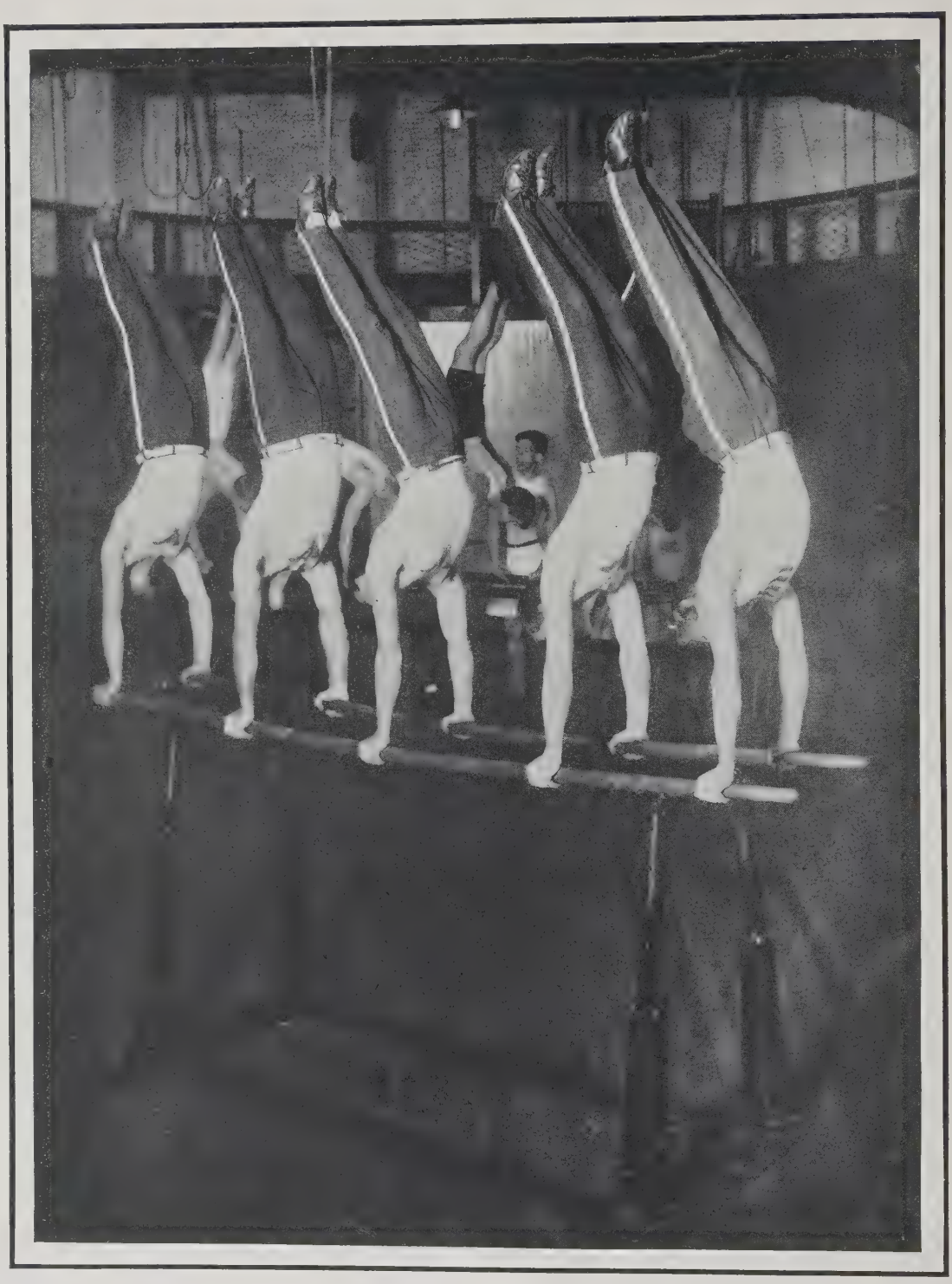
26. Stand facing the wall with feet twelve inches apart; grasp the handles with thumbs upward and extend the arms forward horizontally. Sweep both arms around to the right, keeping the right arm extended horizontally and the left arm a little below it. Return to position, and sweep the arms around to the left. Continue five times from left to right.

27. Stand facing the wall with the left foot forward thirty inches from the right. Bend the body forward and downward, and press the handles down to the floor in line with the toe of the left foot. Bring the body to an erect position and carry the arms upward and backward.

28. Stand with the left side toward the wall, with feet about thirty inches apart. Grasp the right handle with the left hand and extend the arm upward; place the right hand on the right thigh. Raise the left arm to a vertical position and at the same time turn the body to the right and flex the right leg until the left arm is extended on a line with the left leg. Reverse the position and movements.

29. Stand with the right side toward the wall with the feet about thirty inches apart. Grasp the right handle with the left hand, the thumb downward, the arm bent, and the handle behind the head; let the right hand rest on the right hip. Extend the left arm obliquely upward, at the same time turning the body to the left and flexing the left leg. Be sure alternately to flex and extend the leg. Reverse the position and movements.

30. Stand with the back toward the wall, and the feet about thirty inches apart, the left foot forward. Hold the handles horizontally, with palms forward, the right arm stretched vertically upward and the left arm downward at the left side. Throw the weight forward upon the left leg, keeping the right leg straight, and at the same time bring both arms forward to an extended position in front of the body. Reverse the position and the movements.



Here are pupils of Dr. Sargent doing a particularly difficult hand-stand on the bars. They will have to come down one at a time, — beginning at which end, do you guess?

31. Stand facing the wall with the right foot in front of the right handle. Rest the right hand on the right hip and insert the right foot into the right handle so that the handle rests against the heel. Hold this foot about twelve inches from the floor, the leg being extended and flexed at the knee. To secure balance rest the left hand on the back of a chair by the side. Bring the right foot down with a pawing movement until the toes almost touch the floor, forcing the heel well back toward the buttock. Then extend the leg forward to the first position. Reverse the position and the movements.

32. Take the same position as in Exercise 31. Bring the right foot down, keeping the knee sharply bent, and extend the right leg backward. At the same time lean forward with the body, balancing on the left foot. Reverse the position and movements, balancing on the right leg.

33. Stand with the back toward the wall, the left foot in the left stirrup, and both hands grasping the back of a chair. Bring the left leg down to an extended position in front of the body. Return to position, bending the left knee sharply as the leg is carried back. Reverse the position and movements, balancing on the left leg.

34. Stand as in Exercise 33 but with the left foot extended backward and inserted in the stirrup with the heel up and the toe down. Let the chair which the hands grasp be about six feet from the wall. Bring the left leg down to an extended position in front of the body; then let the leg go back as far as possible, keeping the knees straight and bending only at the loins.

35. Stand with the left side toward the wall, the right hand grasping the top of a chair, and the left leg extended toward the wall with the foot in the stirrup. Bring the left foot down to the floor beside the right foot, keeping the leg straight throughout the movement. Reverse the position and use the right leg.

PHYSICAL MEASUREMENTS

If the boy is in earnest about his training, he will not want to work blindly. He will wish not only to *feel* his gain but to *prove* it. He should therefore do two things: (1) Go to his physician to be examined carefully and thoroughly, and have the findings entered on a card for his own and the physician's use. This examination will show whether the heart, lungs, kidneys, and other parts of the body are in sound condition. The physician may also measure the chest, head, arms, legs, etc. (2) Keep at hand the list of measurements which the physician makes and once a week take similar measurements so far as this can be done alone.

The following headings are suggested for this working table of progress:

1. Normal pulse.
2. Pulse after exercising.
3. Weight.
4. Height standing.
5. Trunk length.
6. Breadth of chest.
7. Breadth of waist.
8. Depth of chest.
9. Depth of abdomen.
10. Girth of neck.
11. Girth of chest, contracted, at ninth rib.
12. Girth of chest, expanded, at ninth rib.
13. Girth of waist.
14. Girth of right arm.
15. Girth of left arm.
16. Girth of right thigh.
17. Girth of left thigh.
18. Girth of right calf.
19. Girth of left calf.
20. Lung capacity.
21. Strength of forearm (left and right).
22. Strength of back.
23. Strength of legs.
24. Strength of dip.
25. Strength of pull up.

The boy will have to improvise some way of making these strength tests; it will take but little ingenuity to accomplish this.

Boys between the ages of fourteen and twenty are developing so rapidly that their measurements vary greatly. The average boy of sixteen, however, is 5.36 feet tall and the seventeen-year-old youth is 5.56 feet in height. Upon the basis of these height measurements, physical directors have figured out the measurements as shown in the following table. It will prove interesting to the boys of these two ages to study this table to see how they compare with the "average" youth.

THE AVERAGE MEASUREMENTS FOR BOYS OF SIXTEEN AND SEVENTEEN

	16 years	17 years
Height	5.36 ft.	5.56 ft.
Weight	116.38 lb.	128 lbs.
Height (sitting on the floor)	2.77 ft.	2.87 ft.
Span of arms	5.51 ft.	5.7 ft.
Breadth of head	5.95 in.	5.97 in.
Breadth of chest	9.84 in.	10 in.
Breadth of waist	9.12 in.	9.7 in.
Depth of chest	6.60 in.	7.2 in.
Girth of head	18.40 in.	22 in.
Chest expansion	3.5 in.	3.86 in.
Lung capacity	192.5 cu. in.	221.43 cu. in.
Strength of right forearm	73 lbs.	95 lbs.
Strength of left forearm	65 lbs.	90 lbs.

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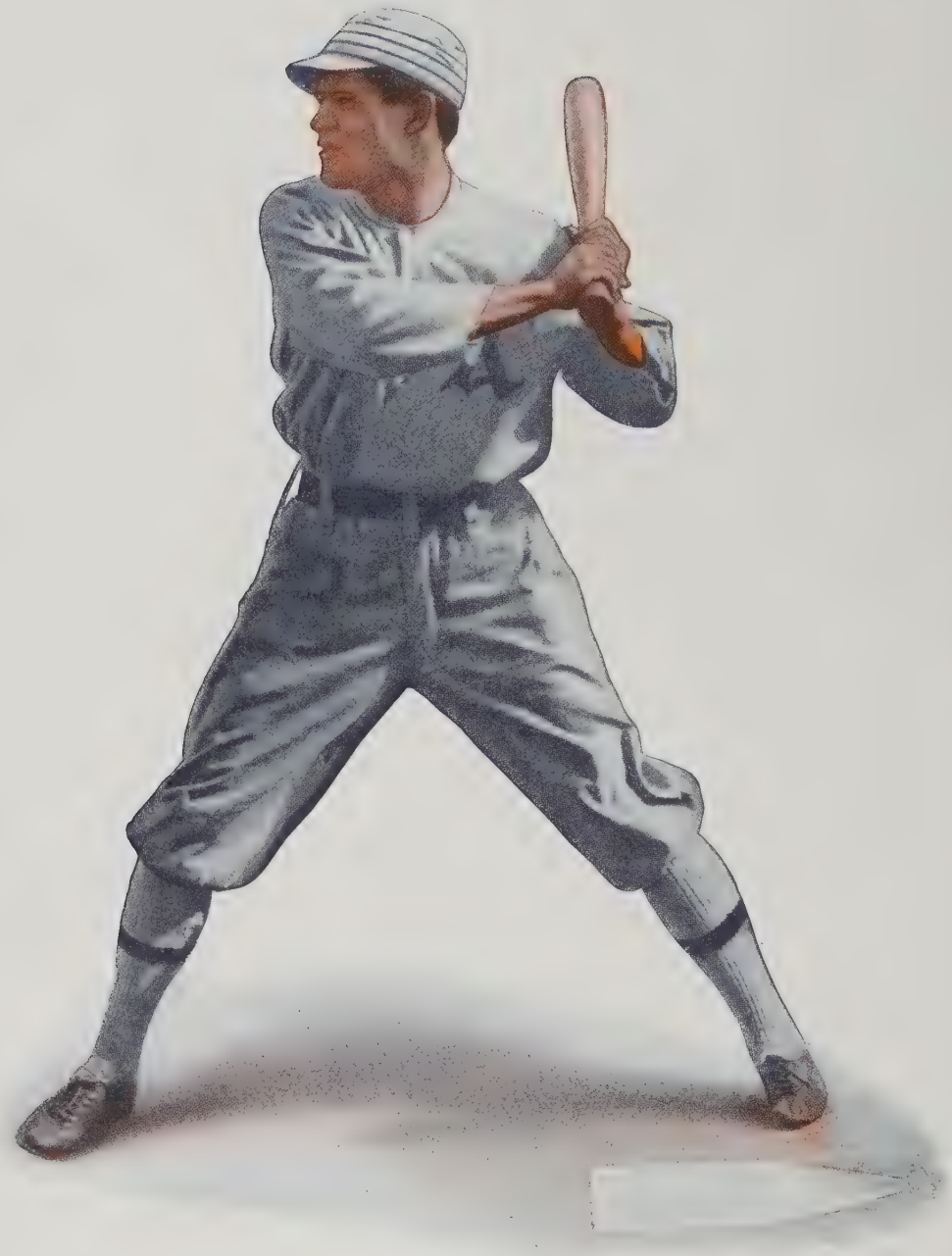
AN AMATEUR ATHLETIC CONTEST

Top: Discus and Javelin Throwing. Bottom: The Running High Jump.



A SURE HITTER, AN IDOL OF THE FANS

BASEBALL HAS REACHED THE PHILIPPINES: THIS IS THE ILOILO HIGH SCHOOL NINE

THE AMERICAN NATIONAL GAME — BASEBALL

THIS outdoor sport is called the American national game on account of its popularity in the United States. The game, as it is now played, has been developed within the last forty years. Its history is so interesting that we will reserve a separate section for it.

To play the game effectively requires a field at least two hundred feet square, and it is better to have it somewhat larger than this in at least one direction. The field should be as level as can be found and well covered with a short, firm turf. The method of laying out this field is sufficiently shown in the diagram on page 177. It is illegal to erect a backstop less than ten feet behind the home base, or "plate," and it is more usual to allow a space of twenty or thirty feet, the latter being the distance on a correct diamond. The home plate should be seventeen inches in width. It should be flat, level with the ground, and easily visible from the pitcher's position. The correct marking for the other bases is a canvas bag fifteen inches square. These should be fastened to the ground so as not to be moved from their correct distance.

Baseball is played by two sides of nine players each. It is not practicable to play the game without an umpire, who must be agreed upon in advance, and from whose decisions there must be no appeal. It is the duty of the umpire not only to see that all rules are obeyed, but to render a prompt decision on each play as it is made. Each side should have a captain, who must be one of the players, and to whom the other players of his team should yield obedience. Discipline is an important part of the game, as good playing depends upon perfect coöperation, or team work, and the individual player must yield his judgment to one responsible for all.

The home team, in a match game, supplies the balls, of which there should be more than one. The visiting team goes to bat first in each inning.

The game begins when the umpire calls "play." Immediately thereafter the pitcher should deliver his first ball. This must be delivered from within the space marked (see diagram) as the pitcher's box. The pitcher is not allowed to make a feint, or balk, but having moved his arm as if to throw, he must actually deliver the ball. If he does not, the umpire should call a balk, and the batsman go to first base in safety. Every ball delivered over the plate and between the batter's knees and shoulders in height is a strike, whether the batter attempts to hit the ball or not. It must be so declared by the umpire. The batter is allowed three strikes. A ball is a strike if it is hit at by the batsman, whether it is thrown over the plate or at a correct height or not. A foul ball is also called a strike, but on the first and second strikes only; a foul tip or bunt on the third strike puts the batter out. If the batsman is hit by a pitched ball, which he could not avoid with reasonable effort, he is allowed to take his base in safety; but if the umpire decides he could have avoided being hit, it is a strike. If on the third strike the catcher misses the ball, while a runner is on first base, the batsman is out; but if that base is vacant, the batter becomes a base-runner and is safe unless put out before reaching first base. A ball delivered by the pitcher which does not pass over the plate between the batsman's knees and shoulders, and which the batsman does not hit or attempt to hit, is called a ball by the umpire. When a fourth ball is called, the batsman takes his base in safety. If there are runners on any of the bases, it is a balk for the pitcher to throw a ball to that base without first taking a step toward it. If the pitcher feints to throw the ball when he has no ball in his hand, it is also a balk. These are the principal rules governing the pitcher.

The batsmen must be called in an order previously arranged and given to the umpire, who shall show it to the captain of the other side. This batting order cannot be changed throughout the game. If a new player is substituted at any point of the game, he must take the batting order of the player whose position he takes. At the beginning of each inning, the player first at the bat is the one following the player last at the bat in the preceding inning. The batsman may stand on either side of the plate, but within the space marked for him (see diagram). He may not shift from one side of the plate to the other after the pitcher has begun to deliver a ball. If he does so the umpire shall declare him out. A fair hit is a legally batted ball that strikes inside of the foul line or strikes any part of a player, or umpire, within foul lines, or that is within foul lines while bounding toward the outfield beyond first or third bases. A foul hit is a legally batted ball that strikes outside of the foul line between the home plate and first or third bases, or that touches any part of a player or umpire in foul territory, or that bounds into foul territory before reaching first or third bases. A foul tip is a ball that is struck, or touches the bat, and passes directly to the catcher's hands, standing within his position. This must be called a strike. A bunt hit is a ball met by the bat without swinging and falling within the infield. The batsman becomes a base-runner when he makes a fair hit, or when the umpire calls four balls, or when the umpire calls three strikes and the catcher misses the ball, or when a pitched ball strikes any part of his person, or when the catcher attempts to interfere with his batting. The runner is out if a batted ball is caught before it strikes the ground, by a player of the opposite team, or if he is touched, while not on any base, by a ball in the hand of a player on the opposite team, or if the ball is held by a player of the opposite team who is touching a base to which the runner is forced to go. A runner is forced to go from the home base to first base instantly upon becoming a base-runner. A runner to first base is allowed to run by the base, after he has touched it, provided he turns away from second base. He is forced to pass to another base when the base which he occupies is touched by another runner, or when another runner must occupy that base. When a foul ball has been declared, the runner must return to the base to which he belongs and remain standing there until the pitcher has the ball and is in his box. When a fair hit has been caught before touching the ground, by a player of the opposite team, the runner must return to his base. If he fails to do so, he may

be put out by throwing the ball to the baseman on the base from which he started to run. A runner may be coached, or assisted with advice or information, by one or two coaches, who must wear the uniform of the team and must take positions as indicated by the diagram.

A score is made by a runner arriving at the home plate without being put out, after having legally touched each of the other three bases, and provided that a last, or third out, is not made before or during the play on which he makes his run to the home plate. Three outs end an inning. Nine innings end a game, unless the score is a tie, when the game may be continued until one or the other team secures a winning score, or stopped by agreement, in which case it is called a draw game, or stopped by order of the umpire on account of darkness, rain, or other sufficient reason, in which case he shall declare a draw game. Special ground rules may be established by the home team, provided these do not conflict with the regular rules of the game, and are rendered necessary by some peculiarity of the grounds, and are communicated to the umpire and captain of the opposing team and accepted by them before the game.

THE SCIENCE OF THE GAME

Baseball is a game of skill rather than of physical strength. Quickness of mind and body are essential to success, as well as a thorough knowledge of the game. While it calls upon the player at times for prompt exertion of his powers, as an exercise the game is not extreme. The greatest endurance as well as the highest skill is called for in the pitcher's

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SCENE AT THE POLO GROUNDS, NEW YORK, AT A WORLD'S SERIES GAME

The first ball has just been pitched. The infield can be seen, except second baseman. Distance from pitcher to home base is 60 feet; between bases 90 feet. Coaches and two umpires are in position.

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SNAPSHOTS OF THE PITCHERS OF THE NEW YORK GIANTS WARMING UP BEFORE ONE OF THE CHAMPIONSHIP GAMES

position. The distance which the ball must be thrown is a little over sixty feet and the ball must be thrown with considerable speed. While theoretically a game might be played from beginning to end with only twenty-seven balls pitched on one side, the average number actually pitched is nearer to two hundred. This is enough to tire the strongest arm, and pitchers are frequently changed during the game. The art of pitching can only be learned by the most diligent practice. While straight balls pitched with great speed are sometimes used and are effective against some batters, the pitcher usually seeks to impart some curve to the ball which will more easily deceive the batter. These curves are made by causing the ball to twist, or spin rapidly in the air. This is done by the way in which the ball is held and the manner in which it is released. The principal curves are the out (to the catcher's right), the in (toward his left), and the drop. There are many modifications of these fundamental curves, of some of which we will speak. The simplest curve to acquire is the out. It is also the least tiring, requiring the least snap, or twist of the wrist to accomplish it. The reason for this is that the manner of holding and throwing a ball that is most natural has a slight tendency toward an outcurve. A very slight tightening of the fingers as the ball is delivered is sufficient to give a very marked curve. There are many ways in which an outcurve can be delivered. As the movement will bring unaccustomed muscles into play, the learner should practice very sparingly at first. The best way to practice is to measure the correct distance from an upright post and throw at it. The line of the post enables the pitcher to see the movement of the ball plainly. When the curve is acquired, the pitcher must gain perfect control of its direction and be able to deliver it with sufficient speed to accomplish its purpose of bewildering the batter. One curve well managed is better than a big repertory of which the pitcher has but indifferent control.

WHEN TO USE THE OUTCURVE

The outcurve is particularly useful against a timid batter. As he sees the ball, apparently coming straight toward him, he is almost certain to step back and swing wide, or allow a strike to be called on him. An outcurve is almost certain to result in a hit toward right field if the ball is fairly met by the batter, and the right fielder should be signaled that an outcurve is to be pitched. An outcurve is useful against a batter who shows a tendency to wait, for he can see more clearly than with any other curve that it is not in the line with the plate, and if it is the batter's intention to tire the pitcher, or attempt to make his base on balls, he will be very likely to let it pass and have it called as a strike. An outcurve that breaks

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PITCHERS WHO HAVE MADE RECORDS IN CHAMPIONSHIP GAMES OF THE WORLD'S SERIES

late, or when it is close to the plate, will cause a nervous batter to strike when it is really too late. The ball must be thrown with much speed to accomplish this late break.

THE INCURVE

This is far more difficult to attain than the outcurve and must be used more sparingly by the pitcher. The reason for this is that it requires a motion that is contrary to that which is natural in throwing. It is therefore not only difficult to master, but tires the pitcher's arm much more quickly than an out. The novice should never attempt to use a high incurve, as it is likely to strike the batter in the head, and may even prove fatal. An effective, low incurve is a very difficult ball for a batsman to master. He may hit it, but he cannot easily give it a hard drive. Moreover, it is likely to hit the bat nearer the batter's hand, and hence lose force when hit. Save your incurve to use against wide-swinging, heavy hitters. The incurve, if fairly met by the batter, has a tendency toward left field, and the left fielder should be signaled to be on the lookout. Shortstop and third base should also be on the alert for an incurve hit. Let the pitcher also bear in mind that the incurve is the ball most frequently fouled, and it is also likely to keep him working and tire him out. It should be used therefore sparingly and with skill. If a batter has a tendency to stand too close to the base, an incurve is well suited to strike him out. In short, as the outcurve is most effective against the weak and timid batter, so the incurve is the ball to use against the bold and heavy hitter. Mathewson's famous "fade-away" is an incurve combined with a drop. The ball passes close to the batter's knee, a most difficult position for a hit.

THE DROP

The drop is pitched in several ways. The point is to cause the ball to spin in the same direction as its flight. This causes a downward roll in its course, just as it begins to lose velocity. The great effectiveness of the drop lies in the fact that if it is hit, it will, nine times out of ten, cause a fly, or high hit, which a good outfield is sure to catch. If the pitcher is not sure of his outfield, he should be careful about using the drop. It is a good ball to pitch to a batter who has a tendency to strike high. The great majority of batters, however, strike below the ball. One sometimes hears of upcurves, or jumpballs, but it is doubtful if any pitcher has ever mastered such a ball. The difficulties are too great. It is, however, true that a very swiftly thrown incurve has a tendency to drop at the same time, and a very swiftly thrown outcurve has a slight

tendency to rise. While the drop can be very materially assisted, the rise hardly can, as the motion that must be imparted to the ball is such that speed in throwing is almost impossible at the same time.

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ONE OF THE FAMOUS PLAYERS IN ACTION. HE CONSTANTLY KEEPS THE BATTERS "GUESSING"

THE SPITBALL

If the fingers be wet, they have a tendency to stick to the ball, and impart to it a very irregular spin, which causes an uncertain course. While such a ball is difficult for the batter to hit, it is equally difficult for the pitcher to control. It causes much wild pitching, and has resulted in many injuries. It is much out of favor with players. But some great pitchers control it so effectively that with them its use is legitimate.

THE SLOW BALL AND THE "FLOATER"

A ball pitched very slowly, when the pitching has been very swift, is likely to cause the batter to miscalculate its speed and swing too soon. It is used most effectively against batters who have a tendency to strike too soon, and by pitchers who are known to habitually pitch a very swift ball. Such a ball does not spin in the air much, and thus looks larger than a ball that is rapidly spinning. It is not deceptive in itself, but can be used deceptively by a shrewd pitcher. If a very violent twist, or spin, is imparted to a slow ball, it will appear smaller, and have the appearance of a ball that is coming much faster. Such a ball is called a "floater." It is an exceedingly deceptive ball if sparingly used. All of these special curves are trick balls and cannot be used too often. A pitcher who spends his practice time mastering some difficult trick ball, and knows little else, so that he must continually use it, will soon be "knocked out of the box."

HOW TO PITCH

Study your batter. As soon as you decide what to do, make sure that your team knows what you intend. There are many methods of signaling this information. The pitcher and catcher first agree upon the kind of ball that is to be thrown; then it is signaled to the rest of the team, who know what to expect and are ready for the hit that is most likely to result. Remember that there are eight other men on

your team, each waiting to do his full duty. Do not try to strike every batsman out, but try to have him hit under control. Controlled hits win more games than strike-outs. Above all things do not fall into a groove. Vary your pitching. Surprise is the great thing. Try to think what the batter is watching for and do something else. If you have been pitching drops, throw in an occasional high, swift, straight ball. If you have been playing havoc with low ins, pitch a low out. The slow ball is most effective when the batter is trying for a heavy hit, and thinks that you will give him your hardest ball. A cool, thinking head is a better asset to the pitcher than his best curves.

BATTING

A good batter is as rare as a good pitcher and quite as valuable. Practice in batting should be a large part of every team's drill. Do not be afraid of the pitcher. In spite of all that we have said about curves, and the pitcher's mastery, the actual deflections which a ball makes are very slight. A ball cannot be pitched over the plate which cannot be hit. No man can throw a ball so fast that it cannot be easily seen throughout its course. The batter fools himself far more than the pitcher fools him. Watch your ball without fear and as if you were master of it. Do not try for great hits, but for safe hits. Do not try to guess what the pitcher is going to do. Be content to watch what he does do. The pitcher's trump card is doing something different from what he knows that you will expect him to do. Therefore don't expect, just keep your eyes open and see. Be sure to practice a free and supple wrist movement, so that the bat will swing as well as your arm. Many batters swing heavily with their arms, but the bat describes but a small and weak circle. It is the bat that hits the ball. Let it swing freely. Grasp the handle tightly at the instant of striking. The slightest looseness of grip will take all the force out of your stroke. Learn to ignore the background against which the ball is seen. It is very deceptive. On some fields it is made purposely so, but that can scarcely be called clean ball. You may be called upon for a weak little bunt or sacrifice hit. A sacrifice hit is one that is certain to put you out, but which will advance a base-runner. Don't be disgruntled. Do what you are told to do. It is the team that

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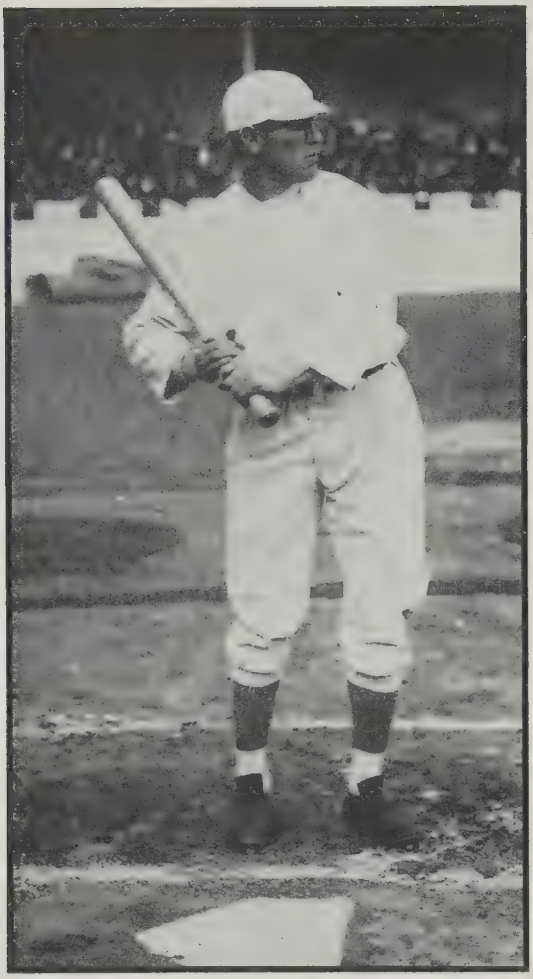
A TYPICAL AMERICAN PITCHER, ONE OF THE WORLD'S SERIES BEST MEN AND A HARD WORKER AND THINKER



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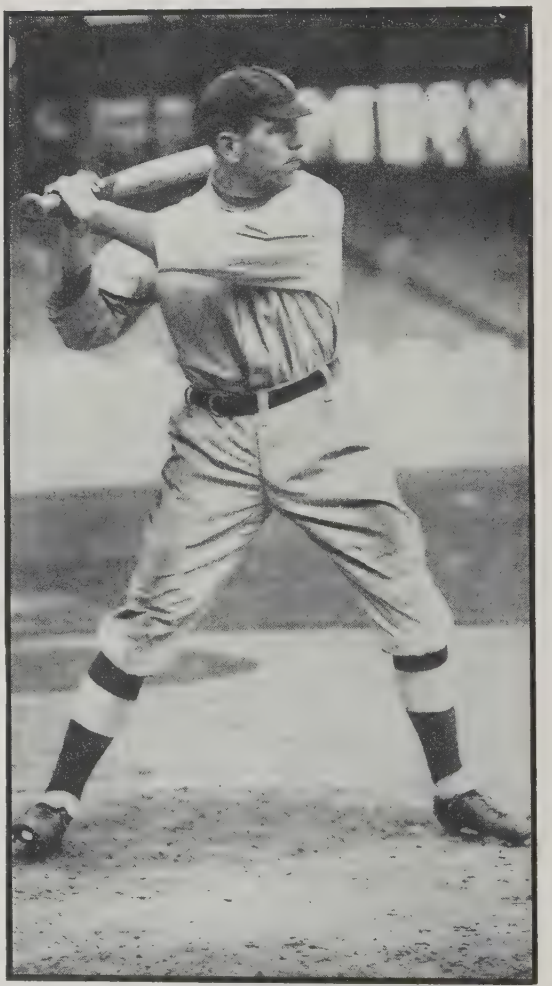
WAITING FOR A GOOD ONE

is to win, not you. The desire to do too much is one of the secrets of poor batting. Many excellent batters close one eye to sight the ball as you sight a gun. Batting is a study of yourself. You have eccentric movements which you little suspect. You must know what you are most likely to do, correct your errors, and use yourself as if you were another person. It is this patient self-study that wins.

BASE-RUNNING

Base-running requires a combination of caution and boldness. A timid base-runner is rarely successful. A careless base-runner is a source of much provocation to the team. While on base, play as far off as you dare, and keep in motion. This worries the pitcher. Do not let him catch you, but the more often you can tempt him to throw to put you out, the better. Throwing to bases upsets a pitcher more readily than any other thing that he can do. Listen carefully to the coaches. They have an advantage over you in seeing the whole field as you cannot. If the coach tells you to run, do not hesitate an instant. That instant may be fatal. Watch for dropped balls, and the innumerable little accidents that occur in the game. One of these at any moment may



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READY TO MEET IT

earn you a run. On a close call the player has a much better chance of reaching his base by making a slide, which often rattles the opposing player and makes the decision of the umpire difficult. When you are running bases, you have the right of way, and it is the duty of all opposing players to get out of your way. Run boldly, therefore, and do not be disturbed by their presence. They will jump out of the way in time. To steal bases, that is, to make a run between hits, is a very difficult thing to do and requires much cleverness. It should not be attempted excepting as a last resort when there is no other chance of making a run. A well-thrown ball travels about four times as fast as a man can run, and a wild throw is only a lucky chance on which you cannot count. If the ball is actually in the hands of an outfielder while you are still touching third base, you cannot make the home plate, unless he is a poor thrower; but if he is too far back to make the throw, and must throw to an intermediate player, you can make the distance. Even then you had better

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A PLAYER FAMOUS FOR HIS HOME RUNS

keep your ears open for the coach's order to "slide." It is only in case of a bad throw or a fumble that it is possible to make a base on an infield hit.

SLIDING

This very important adjunct to base-running must be learned. It is necessary to slide in such a manner that the baseman cannot block the runner from the base, which he can do by taking advantage of the rule allowing him to move wherever it is necessary in order to catch the ball. The thrower is quite certain to attempt so to throw it as to compel the baseman to block the runner. Slide feet first and let your legs hook around the base marker as they strike it. This will make a fluke impossible. Sliding in such a manner as to make it difficult for the baseman to catch the thrown ball should not be practiced, as it is considered unfair playing.

PLAYING THE POSITIONS

The catcher holds the position next in importance to that of pitcher. He must have hardihood sufficient to withstand the heavy pounding of the swiftly thrown ball. He must have iron nerves, and be fearless of injury, from which, however, he should be well protected by a mask and chest protector. His position directly behind the bat is impossible without such an equipment. His glove must be large and well padded. He must be able to throw a quick, accurate, swift ball to any of the bases, and his need of judgment and nice calculation is very great. A catcher's error is likely to be very costly to the team. An even temper is necessary to playing the position well. It is by his motions and attitudes that signals are conveyed to the team. The coaches assist in this work of passing signals, but the catcher is the pivot around which the play swings. He must be the steadiest man on the team. A pitcher who is uncertain about his catcher cannot pitch well.

The first baseman holds the next most vital position. If a runner is stopped at first base, a deal of trouble is saved. The fielded hit is sure to be thrown with great haste to head off the runner, hence the throw is very likely to be a little wild, and it is the first baseman's duty to be able to stop all such balls. For this purpose, like the catcher, he wears a larger mit than is allowed to the other players. He is usually a tall, long-armed, rangy player, so as to be able to reach all manner of thrown balls without leaving his base. The second baseman is likely to be called upon to field many balls. He should be a man who is good at that work, particularly at stopping grounders and line drives, which are almost sure to come his way. He should be very quick on his feet, as he must play far off his base, which, nevertheless, he must be able to protect perfectly. He is the usual center for double plays, in which extreme quickness is the determining factor. The third baseman assists the shortstop in gathering in short hits, bunts, and foul flies, besides guarding his own base. He is often chosen for his mastery of the art of blocking and annoying the runner; but as all of this is questionable play, the young American who has at heart the good of the game should avoid such tricks and depend only on fast, clean play. The shortstop is responsible for low drives and infield hits. As these come with great speed, he needs to be alert and quick. An effective shortstop can block many otherwise effective hits. His position is in many respects the most athletic on the team. He must be active and speedy, faultless in throwing to the bases, and sure in picking up grounders. It is his duty to back up second and third basemen when they are making a catch. These positions make up the infield. The outfield is made up of a left fielder, right fielder, and center fielder. To each is assigned a territory in which he must catch all fly balls and quickly field in grounders. The one thing on which he must be sure is the catching of flies. His work is often very spectacular, and good fielders are apt to be great favorites with the spectators. The fielder must be patient and watchful, for, although he may wait almost an entire game for a single ball to come his way, any instant may call upon him for the best that is in him. This preparedness and cautious watchfulness is the thing that makes a good fielder. He must also be able to throw a great distance with speed and accuracy. Marvelous throws have been made by fielders to home base, heading off what seemed like a certain run.

THE MINOR STRATEGY OF THE GAME

At every stage of play the baseball player must use his best judgment. He cannot always be guided by the captain or by signals or by a prearranged plan of play. These may not meet the situation as it confronts him. He must decide for himself, and that instantaneously. It is well, therefore, for him to be well grounded in the first principles of the game as a battle of wits as well as a battle of skill.

As baseball depends upon team play for its highest success, the player, in deciding between two or more courses of action, should choose that which those who must coöperate with him will most surely and quickly grasp. Many an otherwise brilliant play has been ruined by the other players who have misunderstood what was being attempted. Brilliant but erratic players seldom win games.

Play to a good margin of safety. It is better to put a man out at first than to attempt to stop a score at the plate, if the margin is so small that you are almost certain to fail. You only succeed in advancing your base-runner to second, or even in scoring a second run for the enemy, by a passed ball. Remember that most umpires decide a close decision at the home plate in favor of the runner; at first base almost universally against him, particularly if the ball has been smartly fielded in.

Watch for signals or orders from the captain, and obey them, even if they are clearly mistaken.

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AN EXCITING MOMENT. THE BATTER BRINGS IN TWO RUNS

When possible play to confuse the team play of the opposite team. It is by team play that they will win. No underhanded tricks should be adopted to accomplish this. But there are many legitimate ways in which it can be done. For instance, if the opposing team is bunching their big hitters, it may be better to put out a man at second than at first or even at third. For the break in the continuity of filled bases has a tendency to thwart their plan.

When at the bat, you will probably have definite orders from your captain what to do.

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That leads to what I call the major strategy of the game. But if you are left to your own decision, play with reference to the next two men at the bat. If the man who is to follow you, or the next batter after him, is a very strong and sure batter, it is your place to play as safe as possible, so as to give him a chance. If you are followed by batters weaker than yourself, you should try, unless otherwise ordered, to "hit it out."

Anything that will compel more work from the pitcher of the opposing team is an advantage to your team. Put a bunted ball where the pitcher is the man that will have to run for it. If you have mastered his delivery and your team-mates have not, you can afford to tire him at pitching for you to knock low fouls.

If there is a runner of your own side on third base, give the enemy's third baseman all of the work that you can. Compel him to play wide by threatening the territory to the inside of his base. This will give your runner a chance to gain a good lead. A hot, low drive along the third base line, with a runner on third, is almost certain both to bring in the run and to land you safely on first.

If you are playing third, and are in this same position, a runner on your base and the batter forcing you to guard your territory, refuse to be "bluffed," and play all the closer to your base, compelling the runner to do the same. In throwing to the home plate on a close decision, remember that the runner will probably slide, and throw the ball to the catcher at the plate about three feet above the ground. That is the point from which he can most surely catch it and quickly tag the runner.

Gain the umpire's good will by never objecting to his decisions, but do not attempt to do so by any other means.

Retain under all circumstances an air of

confident mastery. Do not allow yourself to be frightened or "rattled."

THE MAJOR STRATEGY OF THE GAME

The captain and his advisers arrange beforehand a campaign that they believe to be adapted to the weaknesses of the opposing team. The foundation of this plan lies in the choosing of the pitcher for your team — and choosing a pitcher usually means choosing a catcher, for each pitcher usually has a catcher with whom he works.

As the game is pitched, it must be played. If the opposing team is known to be weak against a particular style of pitching, that is the style that you want. The other dispositions of the game must harmonize with that style of pitching. That is called properly supporting the pitcher. If your pitcher is good at forcing high foul flies, you must have men stationed ready to catch them. If he compels short infield grounders, your infield must be ready. Nothing could be more disastrous than to put up that kind of a pitcher with a poor shortstop, and outfielders playing away off on the horizon line. Arrange, therefore, a consistent attack, in which your team plays together. If that attack fails, and you feel compelled to change it, change consistently, and all through, so that your game will remain a team-played game. It is better not to make the same kind of attack that you did against the previous players of your last match, for they will in all probability have learned all about that, and be ready for you. A team with one style of play may do well at the beginning of the season, but is sure to be mastered before the season ends. Select the pitcher that is best against the opposition's strongest man, or group. On the other hand, build up a group of batters for your own team that are of as widely varied ability as possible, so that you cannot be similarly checked. Only the professional team, however, can afford to carry this idea to its legitimate conclusion, for it ends in a team of specialists; that is to say, of men who can, each of them, do one thing. One man is a powerful batter. He practices that and nothing else; another has a particular delivery at pitching. He omits all else. A team of professionals is made up of a large group of such men who can be used by a shrewd manager, who is in reality the man who plays the game. He watches every turn and break of the game, every weakness of the opposing team, and from his bunch of specialists picks the one that meets the situation. The amateur team cannot do that, nor is it to the real interest of the game to have it done. I have my doubts as to its perfect success even in professional baseball. A team of all-round baseball players would put up a very pretty fight against one of these aggregations of specialists.

But if the idea is carried too far in professional teams, that should not blind us to its essential truths. It is too much to expect each man to be able to do everything well. A good team should be made up of men of varying types, and these should be shifted to meet the play of the opposing team. An ideal amateur team, and one that is ready for all combinations which it is likely to meet, is made up about as follows:

(1) *Pitchers.* There should be two. Let one be a man with a swift, straight, or almost straight ball, which he can vary with a slow ball. This man will be more effective if he is tall, so that he can give a decided angle to his ball. Let the second pitcher be a man with a number of good curves. If he is decidedly shorter than the other pitcher, so much the better. The mere change from a tall to a short pitcher is often enough to break up an opposing batsman, who must readjust his gauging of the delivery. A shift from one to the other of these two styles of delivery can be so managed as to keep the enemy guessing, and quite break up the continuity of any plan they may have adopted.

(2) *Batters.* The ideal team should have two pinch hitters who can be introduced at a vital stage of the game. The mere fact that the opposing pitcher is faced by new men at the bat, after he has already pretty well fought himself out, is very harassing to him. Even if their ability is but little better than that of the rest of the team, at batting they are likely to do good execution, unless the opposing team puts up a new pitcher against them, a thing which is very rarely done, as it is usual to hold on to a pitcher when he has forced the other side to put in pinch hitters.

(3) *The positions.* Be careful to have a catcher who is familiar with the work of both of your pitchers. It may be well to have a brace of catchers so as to make sure of this. Even professional teams often make a blunder in this respect. Now a catcher that has been handling one style of pitching for half of the game is very apt to fail to perfectly adapt himself to the new pitcher. He will probably handle his delivery all right, if he has practiced with him, but it is some time before he works in unison with him on signals and attitude in catching, and this little change may be just enough to hurt the effectiveness of the first balls pitched by the new man, and thus rob the change of its most effective moment. As to the other positions, a team may only need one substitute, an all-round man, who can fit in, in case of another man being hurt or tiring out.

A team thus organized will consist at the most of fourteen players, and that constitutes a good squad for an amateur team, and one that ought to be ready for all emergencies.

Experience has shown that good fielding ability and good batting ability are apt to go together. Just why this is, is difficult to say. But the team-builder should recognize the fact, and develop his team with that general truth in mind. Catchers and shortstops are apt to make good, sure, light hitters, useful for filling bases on bunts and making sure sacrifice hits. Basemen are the best base-runners. Pitchers are the least useful at the bat or in running bases. Of course, there are many exceptions to these rules, but the rule is so general that it is usually safe to build on it. Also, it is important to remember it in handling the opposing team. Look out for short, snappy, infield hits from the average shortstop and catcher. Look out for stolen bases from basemen. Look out for long drives from outfielders.

Since these positions have a tendency to develop these qualities at the bat, you will do well to put your long, heavy hitters in the outfield, your short, snappy hitters at shortstop and catcher, your clever base-runners at the bases. In this way they will improve the most rapidly in their specialties, and you will get the best out of them. And that is the real secret of the major strategy of baseball — to so arrange your team and your style of attack as to handicap your individual players as little as possible, and to get the most out of each.

The great managers are managers of men, those who know how to so place a player as to always get his best work out of him.

THE ALL-IMPORTANT BATTING ORDER

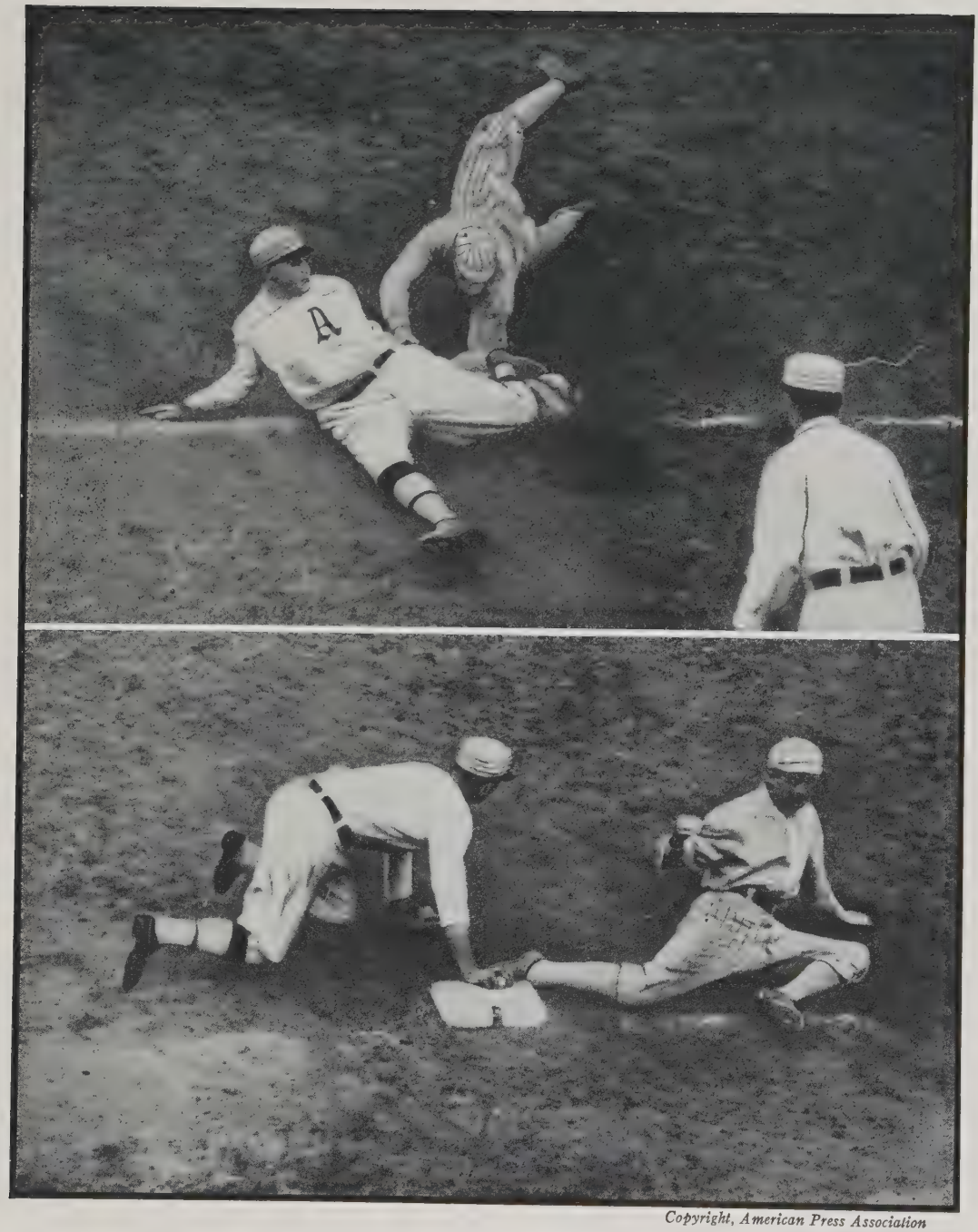
Again rules fail; but experience teaches that the best batting order, under most conditions, is to head your list with a very fast base-runner and one quite sure to make first. Let him be followed by a good bunter, or sacrifice hitter. After this put two strong hitters. This is the surest scoring combination. Other orders, however, may be demanded by the type of pitching of the opposite team, if that is well understood. Against a pitcher who is skillful at forcing foul flies, a safe and sure infield hitter is better than a heavy hitter out, and is much more certain to advance the runners. But unless you are very sure about the pitching of the opposing team the order first suggested is the best. It is the usual professional order.

When this order is followed, strong pinch hitters, when substituted, should be put in after, not before, good base-runners.

SIGNALS AND SIGNALING

The team should be advised in advance of the style of play to be adopted, so that the least possible number of signals may be required. An amateur team will need only a half-dozen signals at the most. These should be (1) "Hit it out"; (2) "Wait"; (3) "Steal base"; (4) "Bunt or sacrifice"; (5) A signal by the batter that he intends to hit the next ball; (6) A signal by the batter that he intends to let the next ball go by.

These signals should be as simple and natural as possible. They should not require motions that will attract attention of the opposite team, nor should they involve anything which a player or coach might be required to do. The coach should be sure to repeat all signals made by the batter. For the out team, the signals needed are those which pass between the pitcher and catcher. They should be con-



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ACTION PICTURES IN A WORLD'S SERIES GAME

veyed to the players by the pitcher's preliminary motions. They will be such as, (1) "Play in close"; (2) "Play back"; (3) "Watch for foul flies."

Remember that the other side is watching for your signals. Let them be as difficult to see and interpret as possible — taking on or putting off a glove, stooping, a manner of standing, as with feet together or with feet apart, picking up a blade of grass, etc.

THE HISTORY OF THE GAME

While baseball has some resemblances to and some connection, historically, with the old English game of "Rounders," the changes are so material that this connection may almost be ignored in writing the history of the game. The game as now played is what is known as the New York game. That is, it comes from the game which originated with the old Knickerbocker Club of New York City in 1845. It was in that year that the first rule book appeared. The rules were, of course, very primitive. They allowed almost everything except good pitching. That was strictly regulated, and so handicapped by the requirement of an underhand or bowling motion, that the advantage was all with the batter. As early as 1839 there appeared a diagram of the diamond indicating the position of the players. But this diagram called for eleven players instead of nine, so that it is not exactly the present game. The diagram in the Knickerbocker Club's rule book is that of to-day.

The first big match game of baseball played under the Knickerbocker Club rules was played in New York, June 10, 1846. This was between the Knickerbockers and the New Yorks. It was not until six years thereafter that any match was played that called for public comment in the press of the day. That was the game between the Knickerbockers and the Washingtons, who were defeated 21 to 11.

The Knickerbocker rules continued to rule the game until a big convention was called, which met at Cooper Institute, New York, and organized a National Association and adopted a new code. This was in 1859. It was followed by the organization of many clubs and an increased number of match games. In 1866 baseball had become so popular that at a game between the Atlantics of Brooklyn and the Athletics of Philadelphia, which was announced as played for the championship title, thirty thousand people attended.

Although the Civil War seemed to put a check to the game by stopping matches, it in reality caused its spread throughout the country to be much more rapid. It was played in camp by the soldiers, and thus learned by men from all parts of the country, who carried their knowledge and enthusiasm home.

When a new convention was called at the close of the war, thirty clubs sent delegates, including representatives from as widely distant points as St. Louis, Chattanooga, and Louisville, Ky., as well as from the eastern cities.

Professional baseball may be said to have originated in Cincinnati. In 1869 the Cincinnati Club put its entire team on salary. The success of the team was so decided that the system was quickly adopted by other cities, and in the course of two years the game was on a professional basis throughout the country. While this greatly improved and developed the playing of the game, it brought in many abuses, such as heavy betting, and in 1871 it was felt to be necessary to do something radical to purify the sport. Accordingly a National Association of professional teams was organized. Betting grew to such proportions that in 1876 a National League was formed to further regulate and purify the sport. This is the National League still in existence. Its presidents have been ex-Governor Bulkeley of Connecticut, William A. Hurlburt of Chicago, A. G. Mills of New York, N. E. Young of Washington, Henry C. Pulliam of Pittsburgh, Thomas J. Lynch, and John J. Tener, the present president. The so-called National Agreement was formed and adopted in 1883, and is the supreme law of baseball. In 1877 the International League was formed, and in 1882 the American Association, which became a strong rival to the National League. In 1891 it was re-absorbed into the National League. In 1900 the American League was organized. Naturally this was followed by a sharp competition for the best players, and salaries began to soar. At last the old league came to terms with its young rival and an

agreement between them was formed. It was this agreement that has given rise to the "World's Series" for the championship which is now the aim of every club to reach, and which is the most exciting feature of the year in baseball history. The tremendous interest which centered about this series threatened in 1919 and 1920 to be its undoing. Eight members of one of the leading nines confessed to having accepted bribes to "throw" the world series of 1919, and were indicted by a Chicago grand jury. Organized professional baseball was in grave danger of being discredited, as the interest in any game depends on clean sportsmanship. The two Leagues saved the situation by creating a supreme arbiter of the game, a position accepted by Kenesaw Mountain Landis, then a Federal judge. The record of succeeding years has shown a great improvement.

In addition to the professional game, which is probably the most highly developed and strictly managed professional sport in the world, amateur baseball flourishes among schools and colleges. The games between the big colleges are followed with an interest almost as keen as those of the professional teams, and local rivalries between secondary school teams are a great factor in American schoolboy life.

AN UNQUENCHABLE ENTHUSIASM

A baseball "fan"—and there are several hundred thousand of him in the United States — is unlike any other enthusiast over sport. He begins his season with the first practice games of the Big League teams in the South, watching for the daily report of progress, and begins his attendance as soon as the first game comes off in his place of residence, or within a hundred miles thereof. He devotes his reading and estimating, and all the time he can command on the grounds, to the relative merits and standing of the teams, and can tell you the chances on any game or any series, also the percentage of each player on strikes and outs. He knows the pitchers and their averages, and pretty much lives baseball during the months of play. Then he goes crazy over the World's Series, and will mortgage almost anything to see the matches. If he cannot do that, he will haunt the bulletin boards of the newspapers. He is of all ages, for the baseball contagion strikes in early with the boy, and still infects the grandfather; while tens of thousands of women also frequent the games, many of them quite as eager as the men to have their club win. It is a good thing that the game is played in the open air, and is not only clean, but such a splendid exhibition of physical perfection and skillful operation. Baseball will not be dethroned as the national game, and American boys will always tell of the great days of George Wright and "Pop" Anson and Clarkson and Ward and other heroes of the diamond of an earlier day, as well as of the present-day front-rankers, who are quite too numerous to name here. And all the while the pitchers of to-morrow, and the catchers and shortstops and fielders, are being made in city unoccupied lots and country fields, wherever there is sufficient space and a group of boys or young men. All of which is good for the physical development of the race, and for discipline and training of eye and hand. Let the game go on, and let presidents and governors and other eminent leaders in nation and state throw the first ball, and may the best team always win.

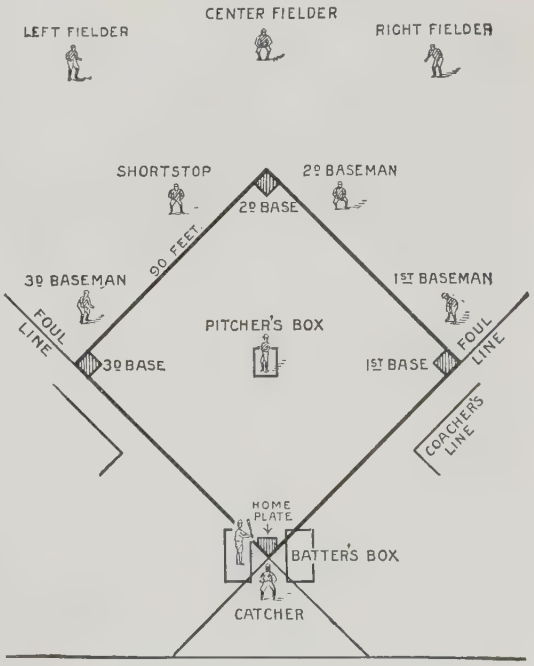

DIAGRAM OF BASEBALL FIELD

STOPPING A HOME RUN

A phenomenal one-hand stop and catch of a ball that otherwise would have been good for a home run. The ball was over seven feet from the ground and traveling at a terrific pace. The player has been compelled to run for it and has caught it while at full stride. Notice how his eyes are riveted on the ball and how squarely he has caught it in the center of his glove. Every movement in this wonderful picture of a great player in action, is in perfect form. Many an important game has been won by a single remarkable feat like this.

These are the plays that set the "Fans" wild, and keep up the white heat of interest in the great national game of skill which numbers its spectators by millions.

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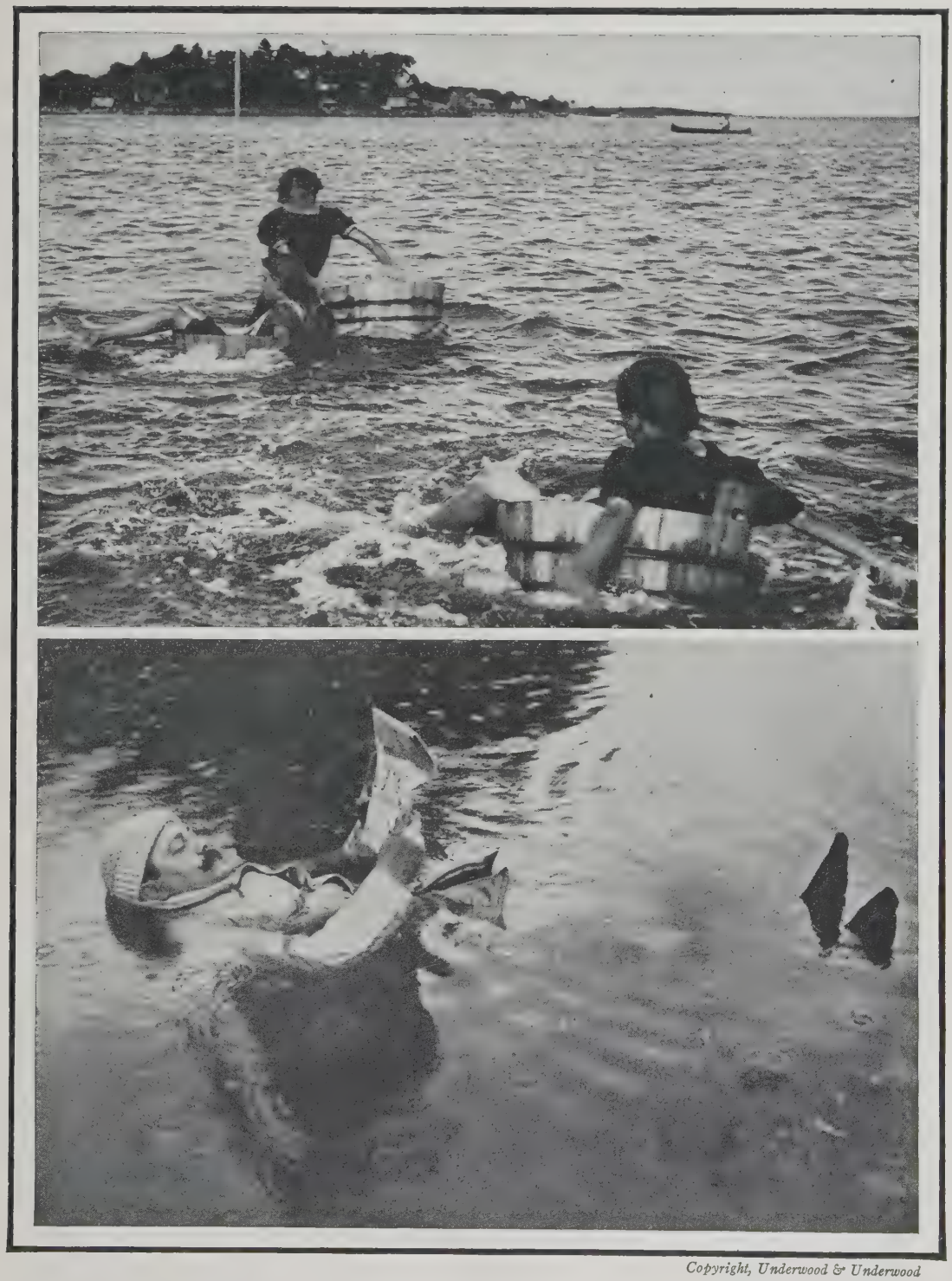

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A TUB RACE IN A SHALLOW POND, AND AN INVENTOR IN HIS NON-SINKABLE WATERPROOF SUIT MADE OF TISSUE CLOTH

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THE BEST FUN THERE IS IN SUMMER

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"THE OLD SWIMMING HOLE"

A reminder of James Whitcomb Riley's poem.

WATER SPORTS

THE IMPORTANT ART OF SWIMMING

A LITTLE more than two-thirds of the earth's surface is covered with water. This man conquers by means of boats and ships. But he is not fully its master, as he cannot, without these appliances, proceed far from any shore. Moreover, boating is always attended by a certain degree of danger. Storm, fog, collision, fire, hidden rocks, and treacherous currents all add to the perils of the deep. To him who has mastered the art of swimming, these dangers are reduced to a very great extent and pleasures are opened up which, without that knowledge, would be hazardous.

Sailing in small boats, canoeing, and rowing should not be undertaken without first learning to swim.

Not only for the sake of safety should every normal person learn to swim, but for health and pleasure as well. No sport is more delightful or wholesome, although excess in swimming, as in everything, should be avoided. The swimmer has two elements at his command, land and water. He has a new mastery also over his own body and a new sense of confidence in his powers. Besides, the swimmer may be able to put his accomplishment to good use in saving the lives of others less skilled than himself or whom accident has disabled. Many lives are saved every year by the presence and skill of some swimmer at the vital moment.

It is not difficult to learn to swim, although more difficult for man than for animals. The

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FAVORITE SIDE STROKE OF BROWN, A CHAMPION LONG-DISTANCE SWIMMER

reason for this is not that man does not float in water as readily as most animals, but because in swimming he must take an unaccustomed position and move in an unaccustomed way, while the ordinary position and motions of an animal enable it to support itself and make progress in the water.

LEARNING TO SWIM

Let the learner find a shore that shelves gradually into deep water so that he may enter without fear. Avoid attempting to swim where there is a high surf. On most beaches there is a space of quiet water just beyond the surf that is quite shallow enough for perfect safety.

Now study the supporting power of water, and at the same time accustom yourself to the feeling of water about your face. You must learn not to be frightened the moment your head goes under the surface. Walk slowly out until the water is just above your waist, and dip your head under the surface, standing on your feet. Do this until it is perfectly easy for you, and the sense of fear leaves you. When this is accomplished try to stoop a little deeper by reaching with your hand for something on the bottom. You will then discover that as soon as your body is entirely under water it begins to lift and almost to float. You will also learn that the more quietly you do this the more lightly will you float. Violent motions that disturb the equal upward pressure of the water on your body tend to make you sink. This is the most common cause of drowning. Those who cannot swim become terribly excited upon being thrown into the water, and struggle violently. As a result they sink far more readily than they would if they re-

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BROWN TAKING NOURISHMENT, ON HIS SWIM FROM THE BATTERY TO SANDY HOOK

mained perfectly quiet, making no effort at all. Accustom yourself gradually to this easy floating of the body in the water and trust yourself more and more to it, lifting your feet from the ground when your body is well submerged. Remember that if much of your weight is out of water, you cannot expect to be supported. Now accustom yourself to breathing with only your mouth and nose out of water. To do this, slowly sink to a sitting position, throwing your head well back and allowing your forehead and eyes to be covered with water. When you have thus accustomed yourself to having your head partially submerged, you are ready to practice swimming strokes.

THE ALL-IMPORTANT KICK

Progress in the water is accomplished principally by the kick of the legs. The swimming kick is a scissors motion, in which your legs act the part of the blades of the shears. They must be spread wide apart as lightly as possible and brought together with force. To learn this motion, go where the water is just deep enough for you to reach bottom with the tips of your fingers when lying on your face with your body under water. See diagrams of positions, page 188. You will find that the mere touch of your finger-tips is all that is required to keep you afloat. Now do not attempt the arm motion until you have mastered the correct motion of your legs. Lying in the water in this position, and holding your arms perfectly still, quietly and slowly draw up your knees under your body, at the same time spreading them apart. Now with one quick, strong motion straighten them out and draw them sharply together so that the inside surfaces of the legs will strike the water with force. When

the motion is completed your legs should be fully extended behind you and close together. You will probably find that there is some difficulty at first in doing this correctly. You will have a tendency to draw your legs up convulsively and to make the scissors motion slowly. This would cause you to move backward, if at all. It is the closing of the scissors with force that does the work. When you have begun to master the motion, you will discover that your body is thrown forward a little in the water. As you gain proficiency, this increases, until you find that each stroke of your legs, made in this fashion, carries you along just as walking does on the ground. As learning the use of the arms is very easy, you would do well to master thoroughly the leg motion first.

THE BREAST STROKE

You are now ready to learn the breast stroke, which is the foundation of all swimming strokes. Place the hands with the backs upward and the fingers pointing forward. Let the wrists touch your breast, not more than four inches under water. Begin the stroke by pushing the hands forward very gently to the full reach of your arms, keeping the palms flat and the fingers closed. Now turn the palms outward and sweep to the side in a wide semicircle. Do not force the hands downward in the water, but toward the sides of the body. To complete the arm movement bend the elbows backward and inward and bring the hands back to their original position, ready for another stroke. This is a very simple motion and is easily learned, although it may sound difficult when expressed in words.

Now for the timing of the leg and arm motions which you have learned. The legs are drawn up just after the arms have been gathered to the sides; and the scissors motion of closing the legs together straight to the rear is made just as the arms are pushed straight forward. With the body arrow-like, and the hands cleaving the water, the greatest advantage is taken of the momentum of the kick. When this momentum is almost spent, it is time to bring the arms around in their wide sweeping motion and draw up the knees for the next kick. If you will experiment, you will find that no other combination of arm and leg motions will work so well as this one. The kick naturally throws the body forward and the head slightly upward, and just as the head would tend to sink again the arms come back and hold it above the surface.

It will be of great assistance to you if you can fix firmly in your mind an image of this combination of kick and stroke, before you go into the water. You can practice it while lying upon a smooth-topped table or upon a hardwood floor. Indeed, many swimming teachers put their pupils through a good deal of preliminary "dry-swimming."

I have known persons who could master all that is here told in one trial. Others require a whole season in which to make this much progress. But whether you learn it quickly or slowly, it will be well for you to master it fully before attempting other strokes. I cannot impress upon you too strongly that two things are necessary to success — first, to overcome your natural fear of the water; second, to keep a mental image of the correct motions. The body will acquire any habit that is not impossible, if the mind is centered upon it. Watch good swimmers, look carefully at the pictures, and in every way teach your mind the motion.

It will assist you to have someone with you, not to hold you up — that is a hindrance — but to give you more confidence and to tell you what you do that is wrong, for in the unusual position and motions you will do many things at first that you do not realize you are doing. Many people will insist that they are moving their arms in a semicircle toward their sides when they are really throwing them violently up and down like a thrashing machine.

THE SIDE STROKE

In the side stroke the body is turned on either side, but preferably with the right side downward, as this relieves the action of the heart. If one is lying on the right side, the right arm is thrown boldly out in front with the palm down, on a level with the lower side of the head, which must be kept well immersed. When pushed to its utmost reach, the arm is held rigid and carried downward through the water

to the body, with a strong movement. In recovering for the next stroke, the arm is brought up close to the body until it reaches the chin, when it is again extended as at first. While this stroke is made with the right (or lower) arm, the left (or upper) arm is bent with hand formed into a scoop and the wrist turned outward, or away from the body. It is then pulled sharply toward the left (or upper) hip. The two arms alternate so that while one is reaching outward the other is pulling backward.

While the lower arm is finishing its stroke and the upper hand beginning the stroke, the legs are bent up to the body, the left knee in front with the foot in front of and at right angles to the body. Stretch the right or lower leg as far as possible from the body toward the back. Then bring the legs together by a powerful and plain stroke. Success comes from moving legs, arms, and shoulders in perfect time. The stroke is a very strong one and should be made in about two seconds. When well done it will carry the swimmer at least six feet to the stroke.

THE OVERHAND STROKE

This differs from the side stroke only in that the left hand is carried forward out of the water and as far to the front as possible. The legs move (that is, make their kick) in unison with the movement of the left hand. The stroke has more propelling power than the side stroke, because of the greater strength of the left-hand movement.

JACKIES ARE NATURALLY AMONG THE GREATEST LOVERS OF SWIMMING

THE TRUDGEN STROKE

This may be described as a double overhand stroke. It was introduced by a swimmer named Trudgen. When swimming, Trudgen at each stroke lifted the upper part of the body out of the water and brought his arms forward in a sideways circle. He then pulled them back through the water alternately, the action of each arm being not dissimilar to that of a paddle-wheel and forming a complete circle. He attained unique speed. Those who imitated him soon learned that as great speed with less effort was attained by making the strokes as in the ordinary overhand stroke, keeping the body well under water. This is now the accepted Trudgen stroke. The kick is the same as in the side and overhand strokes.

DIVING

The diver, in learning, should begin at not more than three or four feet above the water. He may increase the height as he gains confidence and skill. The feet and legs are kept together, with the chest well inflated. The body is bent forward over the water and the arms raised over the head, with the palms flat and the finger-tips together. The feet are used with all the power possible in springing off. When in mid-air the diver straightens himself out from finger-tips to toes. The shoot downward is made by declining the arms so as to enclose the head between them, and the water is entered finger-tips first. The instant the body is covered the arms and head should be thrown upward so as to bring the body to the surface. A good diver will not have gone more

HIGH DIVING IS A THRILLING SPORT TO WATCH OR TO PARTICIPATE IN

than four feet into the water in a dive from twelve or fifteen feet above it, although a beginner will probably go much deeper. Jumping into the water feet first from any height is a very dangerous thing to do. It should never be undertaken.

TREADING WATER

To tread water, keep the hands under the surface and move them, with the palms flat, alternately up and down, making the up stroke easy and the down stroke vigorous. Move the feet exactly as if riding a bicycle. Do not splash or move hurriedly. If the head is thrown well backward, the nostrils will remain out of water even if the head is partly submerged. Expert swimmers are able to tread with the feet alone and to keep a considerable portion of the body out of water. The learner will do well to keep as much under water as possible.

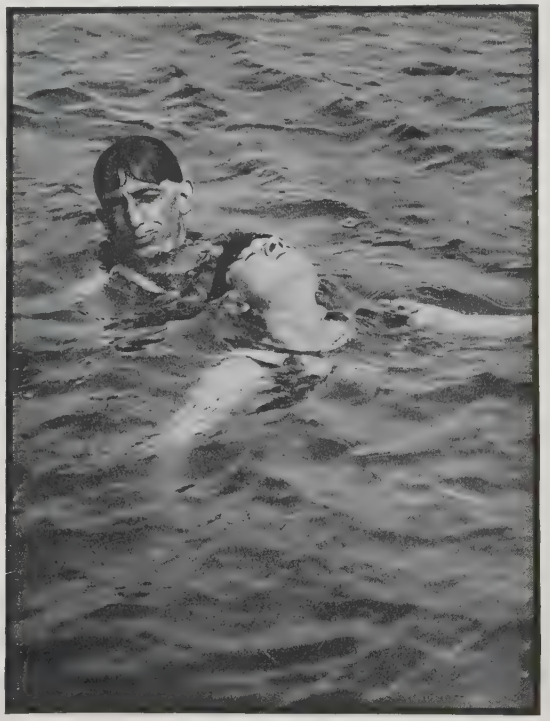
SWIMMING ON THE BACK

This is a very useful method of swimming because of its greater safety when attempting to save drowning persons. Lie gently back on the water with hands on the hips and elbows turned outward. Let the chest be well inflated. As soon as the feet are raised let them be spread apart as far as possible. As in the breast stroke, the muscles of the legs are set and the legs brought firmly together with a strong motion. It is not necessary to use the arms at all. But additional speed may be obtained by an arm stroke which is made by extending the arms so as to make a cross of the body, keeping the palms flat and the thumbs up, then bringing them sharply to the sides with a strong stroke at the same time that the legs are brought together.

SWIMMING AFTER DROWNING PERSONS

When you approach a drowning person call loudly to him that he is safe. If he is struggling violently, wait before seizing him, as it is very dangerous to take hold of a wildly struggling person in the water. As soon as he is quiet, get close to him and grasp his hair with both hands, turning him upon his back.

Then throw yourself upon your back. A sudden pull will cause him to float. Swim toward the shore, keeping on your back, and his back to your stomach. This will keep both



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RESCUE OF A DROWNING PERSON

his head and yours above water. If a boat is coming, do not attempt to swim; merely float, as in this position you can float for a long time.

If a drowning person has sunk to the bottom, you may be able to locate him by the bubbles that rise to the surface from his lungs. In diving, make allowance for the current that may have carried these bubbles a little out of the perpendicular. When the body is found, grasp the hair with one hand so as to leave the other free to help you in coming to the surface.

RESTORING THOSE PARTIALLY DROWNED

I. Do not wait to move the person unless in danger of freezing. Instantly expose the face to the air, toward the wind if there is any. Wipe dry the mouth and nostrils. Rip

the clothing so as to expose the chest and waist. Give two or three quick, smarting slaps on the chest with the open hand. If the patient does not revive, proceed as follows immediately:

II. Separate the jaws and keep them apart by placing between the teeth a cork or small bit of wood. Turn the patient on his face, a large bundle of tightly rolled clothing being placed under his stomach. Press heavily on the back for half a minute, or as long as fluids run from the mouth.

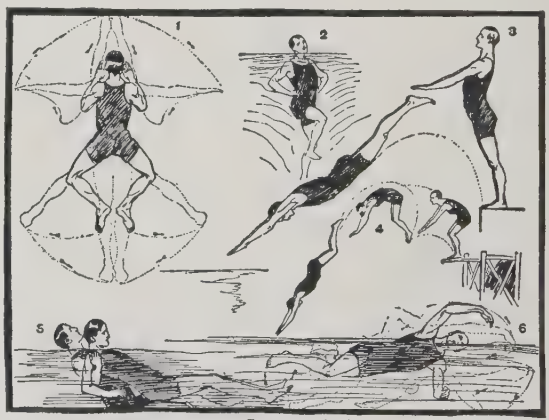
III. Clear the mouth and throat by introducing the corner of a handkerchief wrapped around the forefinger. Turn the patient on the back with the roll of clothing in such a position as to raise the pit of the stomach above the rest of the body. Let an assistant draw the tongue a little out of a corner of the mouth by taking hold of it with a handkerchief. Let a second assistant grasp the arms and draw them up over the head until the hands nearly meet. This expands the chest. Let a third assistant, standing over the body astride, place his hands upon the stomach, the balls of the thumbs resting just to the side of the pit of the stomach and the fingers falling into the grooves between the short ribs. Then let the assistant holding the arms draw them downward to the sides. As soon as the patient's hands are brought to the ground by this movement, let the weight of the upper part of the body be thrown, not violently, but steadily, upon the hands clasping the patient's body, at the same time squeezing the body and increasing the pressure while he slowly counts one, two, three, four. Then suddenly let go with a final push. At the instant of letting go, let the man at the head with the arms again raise them above the head. Repeat these movements twelve to fifteen times a minute, thus imitating the natural movements of breathing. If breathing is not restored in about four minutes, again turn the body on the stomach and attempt to expel more water. Then repeat the artificial respiration. Do not become discouraged too soon. There are cases in which respiration has been restored after four hours of effort. It will aid to have someone rubbing and applying warm cloths to the body while this is being done.

If no assistance can be had, remember that it is vital first to expel the water, then to open the mouth and place something between the teeth, then to draw out the tongue and hold it there with a handkerchief, which may be tied about the chin, then to raise and lower the arms so as to induce respiration. In lowering the arms, press on the pit of the stomach, with an upward, rubbing motion.

A LITTLE BOOK TO SEND FOR

It need hardly be said that the very first thing to do, even before beginning artificial respiration, is to send out a call for a physician or an experienced life-saver. The U. S. Life-saving Service, about which you may read in Volume II, is a splendid body of sturdy, willing, experienced seamen. Each year their brave rescues are recorded in a report issued by the Treasury Department; and nowhere can you find a more inspiring series of adventure-stories than in this little book, which the government will send you if you apply for it.

Swimming is latterly coming to take rank as an athletic sport, as well as a recreation and useful accomplishment. Competitions are held annually between the leading universities. Speed, distance, high-diving, and under-water swimming are the events that are usually included in these competitions, which take place in swimming tanks.



Courtesy of Thomas Nelson & Sons

THE MOVEMENTS OF SWIMMING

1. Breast stroke seen from above. 2. Treading water. 3. The plunge. 4. The high dive. 5. Life saving — a good hold. 6. Overhand side stroke.

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THE BIRCH-BARK CANOE

SINGLE SCULLERS STRUGGLING FOR A WORLD CHAMPIONSHIP

ROWING

IN the spring of each year the eyes of all good sportsmen turn toward the water-courses, where young oarsmen are preparing themselves for the annual races. We hear how the practice goes each day, whether or not the men are fit, how their stroke is working, and what the coaches think of their prospects. Then later, as the date of the racing draws near, the newspapers inform us that the oarsmen are in training quarters, and even narrate what they are eating, how they amuse themselves, what they think of the opposing crews. For a few weeks we know the daily life of the oarsmen as minutely as we do that of the president. Then comes the day of the race with its special trains and its cheering crowds. The race is rowed, the crowds disperse, the captains speak at a banquet, explaining their success or failure, and we settle back with a kind of satisfaction, whether our favorite has won or lost, just because a big annual event has recurred. It is like the coming of Christmas.

But let us proceed properly and not have our plum-duff before our bread and butter; let us get a little plain information about boats and rowing, and see if it does not make us enjoy the sight of a race or the practice of oarsmanship the better in the future. We can begin pretty far back, for I suppose men found it necessary to get across rivers and lakes pretty early in the history of the world, and naturally, since fording was often difficult and swimming sometimes out of the question, they learned to support themselves on floating timbers which they propelled with their hands — an arduous and bungling form of rowing, one may well imagine. The skins of beasts or their bladders, inflated and tied, also were used by the savages of early times to keep themselves afloat in the water. And so little by little we come down to the raft, the dugout canoe, and the galley. All this had happened very early in history among some seafaring races, for as early as 3000 B. C. the Egyptians had their boats and oars and steering paddles and masts. Later on, some of the descriptions of Roman or Greek galleys, with their slaves at the oars under the lash of a slave-driver, show that "team work," or perhaps it is better to say "crew work," had developed; and there we have the beginnings of modern rowing.

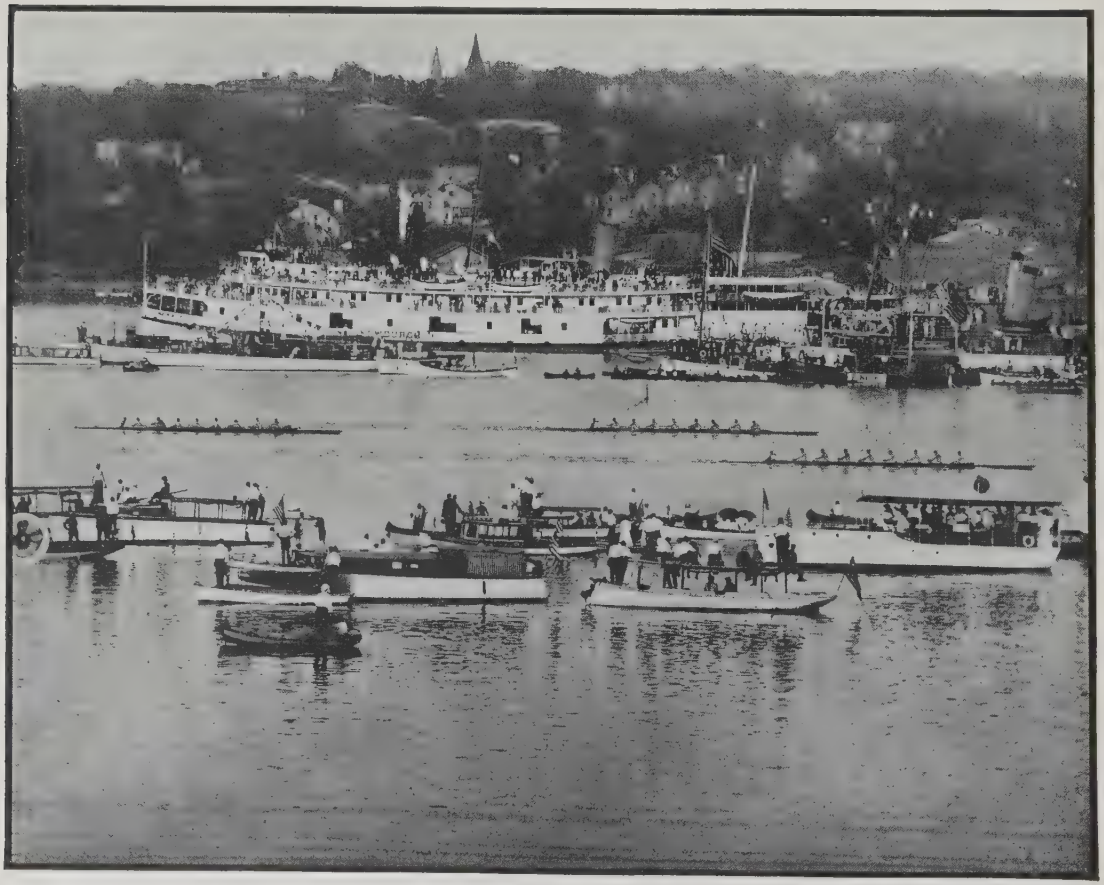
THE SEA-DOGS

But in a book written for those who speak English, and so ought to have an interest in the history of the English tongue, it may be pardonable to write a few words not really necessary in an article on rowing, in praise of some of the finest seamen and workers of boats in the world's history — those grim, yellow-bearded old fellows who were happiest when in the spatter of salt spray from the prows of their black ships. There were several tribes of them, — Angles, Saxons, Jutes, Danes — and they

spent their lives nosing around looking for something to steal or someone to fight. Some of them probably got over to America — the Vikings, they are called usually — and some of them got over to the island of Britain, which they found so agreeable that they decided to snatch it away from the Britons and have it for their own. "Foes are they," wrote a Roman poet of their time, "fierce beyond other foes, and cunning as they are fierce; the sea is their school of war, and the storm their friend; they are sea-wolves that live on the pillage of the world." These sea-wolves were the ancestors of the English people and spoke the tongue which, after many changes, became what we now know as English. So the love of the water comes to England and thence to America by inheritance, and it is not strange that both have developed watermanship and the art of rowing to the greatest perfection.

THE MODERN SCULLER

But all this is a background merely. We must now take a big jump and get to modern days. Let us first give our interest to the single oarsman who pulls one oar with each hand. He is known as the sculler. Boys who come to the water by the natural route will usually have learned to row a flat-bottomed boat without any knowledge of scientific rowing whatever; but if, later on, they wish to improve their rowing, they may join a boat-club where shells are kept, and learn the real art. First of all, such an inexperienced boy will be given a "combination" or working-boat



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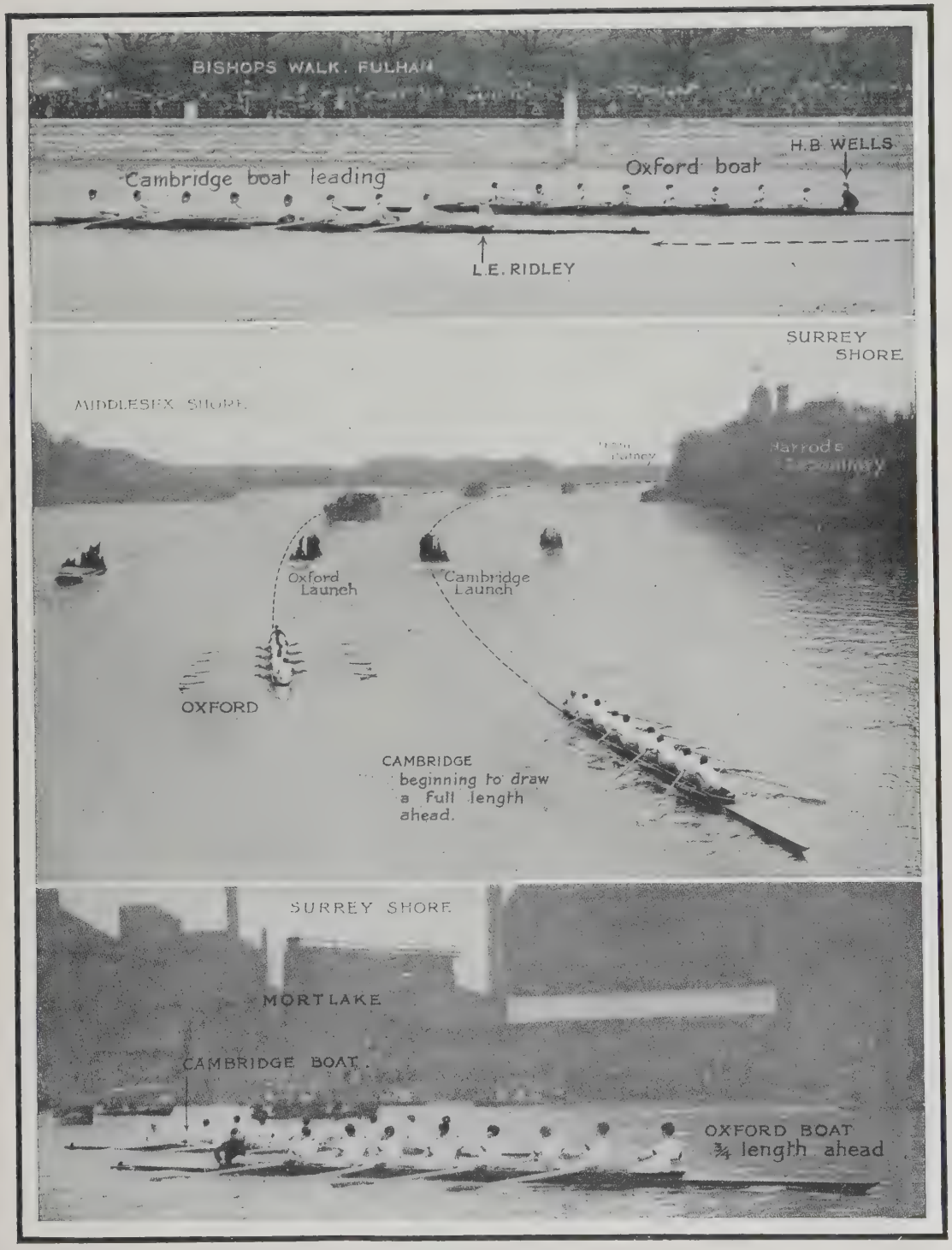
FINISH OF AN INTERCOLLEGIATE RACE AT POUGHKEEPSIE ON THE HUDSON



AN OXFORD-CAMBRIDGE RACE

Top: The start, made at 4.40 P. M. — Cambridge drawing ahead. Middle: Hammersmith Bridge, 4.47. — The two crews rounding the curve of the Surrey shore. Bottom: The finish at Mortlake, at 4.58. Oxford wins by three-quarters of a length in the last three hundred yards.

"ASCOT SUNDAY" ON THE RIVER THAMES. THE SCENE IN BOULTER'S LOCK

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FINISH OF A CLASS RACE AT A WOMAN'S COLLEGE

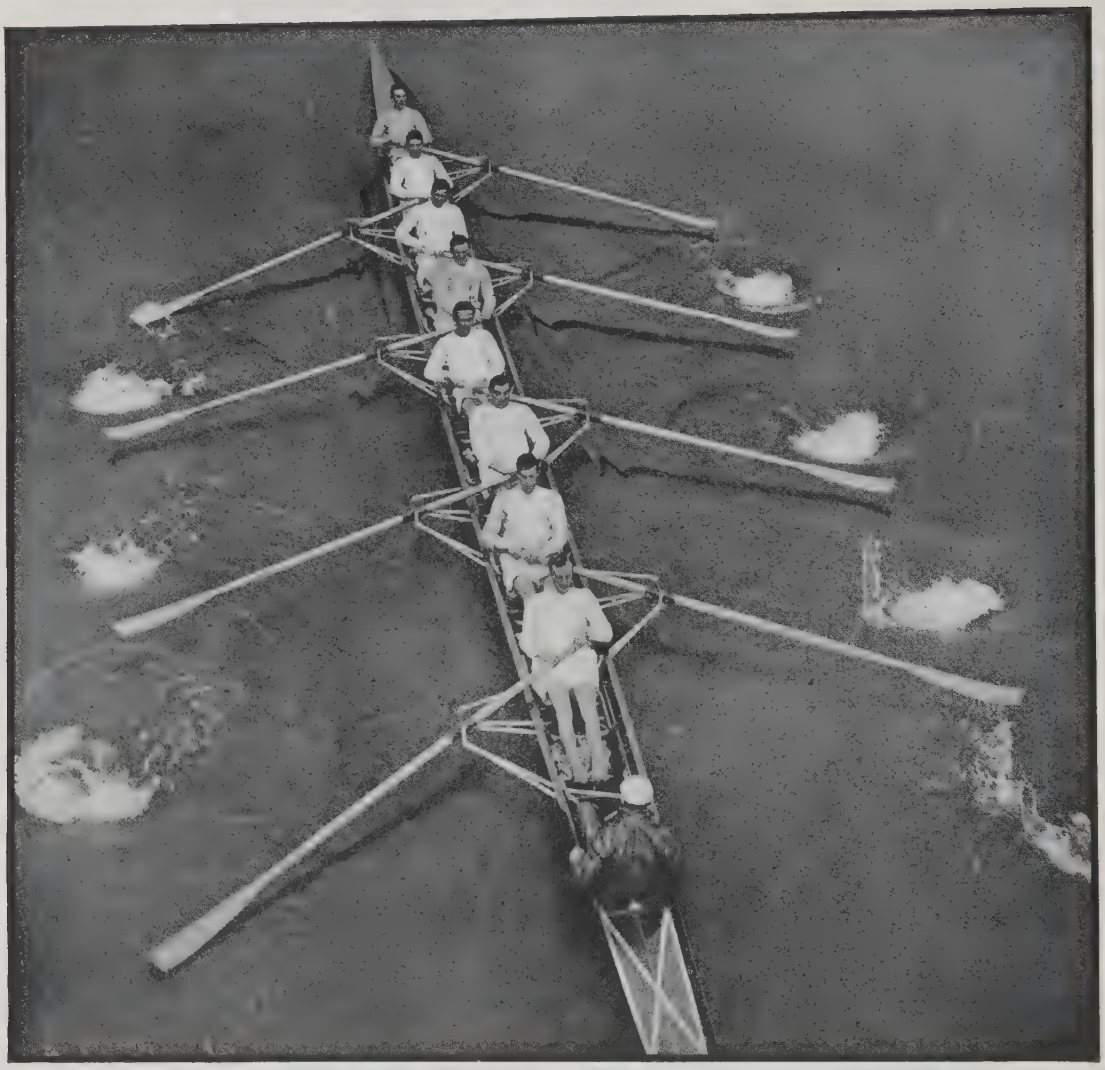
which is reasonably steady in the water, and after he has learned to manage that properly will be promoted to the shell or wherry. He will find that his old rowing experience serves him little, because while you can dance a hornpipe in the flat-bottomed boat, the shell is very light, very narrow, and, having no keel, is liable to turn over in the water under the slightest touch. An old Maine guide once said to me, "I don't like them 'air dugout canoes. Ye can't shift yer cud without tippin' over."

It is pretty true of the shell as well. Put a man into a shell without oars, or sculls, and he will have trouble, however careful he may be, merely to keep from upsetting. But when you put the oars into his hands, he has a means of balancing. By keeping them in or on the water he can instantly correct any tendency to upset by pressing upon one side or the other. It is almost as if a man were assisting himself to balance on a narrow rail by steadying himself on either side with a cane thrust into the ground.

Other forms of rowing which need just a word are the double-sculling, where two men in a boat use four oars; and the doubles, where two men in a boat use two oars, each man rowing his single sweep with both hands. Also there is the rowing in fours, where each man rows a single sweep.

"EIGHTS"

Let us, however, go on at once to the "eights," which compete in the most famous and most popular races. They, of course, are made up of eight rowers and a coxswain, rowing eight sweeps. I shall try in the following paragraphs to explain the principles of a scientific sort which govern the coaching and determine the effectiveness of these eights, trying to put the matter very simply, so that it will assist one who does not know rowing as an expert to understand



THE CENTER-LINE TYPE OF SEATING USED IN THE UNITED STATES

some of its fine points and watch for their application in the next boat race he happens to see.

SEATING

One may get a good idea of the problem of seating by contrasting the English and American styles. The problem is partly one of keeping the boat perfectly trimmed or balanced, and partly one of offering as little resistance as possible to the air. The English trust to watermanship to balance the boat, the Americans to position. Suppose we think of the boat as divided lengthwise by a line running down its exact middle. This we call the medial line. Under the English arrangement, the rowers sit alternately on one side or the other of this line. The stroke sits to the right, No. 7 to the left, and so on down the boat. This naturally distributes the weight over a broader surface and tends to make the boat less stable. Under the American arrangement, the rowers sit one behind another in a straight row on the medial line. Obviously this arrangement lessens the *width* of the crew, looking at it head on, and means that the air resistance will be less, for

one man offers less resistance to the wind than do two men side by side, and the arrangement of the crew in a straight line makes their resistance surface practically the same as that of one man. On the same principle, a diver strikes the water with his hands stretched out before him in an arrowhead position which cleaves the water with little resistance and so makes little splash.

OPINIONS UPON THE SEATING

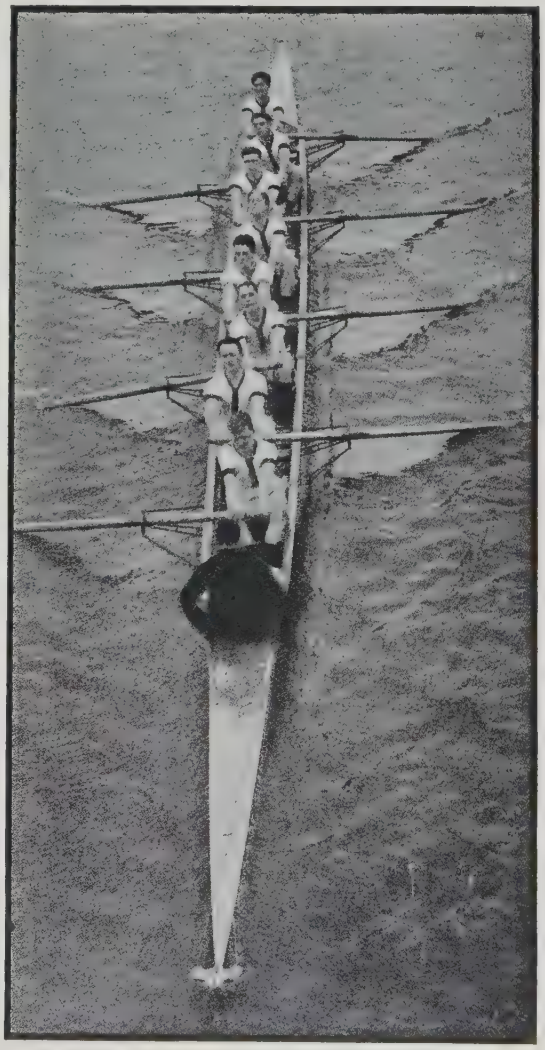
Opinions upon the better of these two manners of seating a crew vary, of course. British rowers prefer the sitting over because it permits a longer oar and a longer body swing. They think that the American seating makes us work the biceps too much in rowing the stroke home, and is likely to "dog-ear" the elbows — that is, bring them away from the ribs. But the supporters of the other seating rely on different principles from those which underlie the older form, and cannot be judged without knowledge of what these principles are.

THE SLIDING SEAT AND ITS EFFECT UPON THE STROKE

We can understand them best by learning the difference between the fixed and the sliding seat. Until very recently the seats were stationary, but some of the scullers on the Thames learned that they could get more speed and force in their strokes by sliding back and forth on the seats as they rowed. To make this easier they sometimes greased the seats with black lead. The advantage they gained was in getting more work out of the leg muscles. Soon after this discovery, sliding seats were introduced to do away with the friction on the rowers' legs. These seats move back and forth on rollers as the oarsman makes his stroke. Now American rowing emphasizes the importance of the slide and of leg-work, and the central seating suits the development of this style of rowing. The English wish the fullest combination of "swing" and slide; the Americans incline to subordinate "swing" to slide. The swing is the movement of the body from the hips up, while the stroke is being made.

THE MEMBERS OF A CREW

The members of a crew are known by numbers. At the front end of the boat, or the bow, is No. 1; in front of him, that is, toward the back or stern of the boat, is No. 2; and so on down to No. 8, who is known as the stroke. The stroke sets the pace, so to speak. All the others row fast or slow in accompaniment with him. The strokes of the oar are counted by the minute, and a crew rowing thirty-two strokes a minute is said to be rowing at thirty-two.



THE SIDE-SEATING METHOD USED AT OXFORD, AND IN ENGLAND GENERALLY

It seems reasonable, since the stroke-oarsman sets the pace, that he should be chosen partly for his sense of time and rhythm. This must be almost as accurate as a musician's.

Number 7, who sits just behind the stroke and rows on the opposite side of the boat, must also have this sense of time and rhythm, for he helps to keep his side of the boat in time with the stroke. Number 6 is often the heavy man of the crew, because of his position in the boat. Number 5 ought to be responsible for the swing of the crew. 4 and 3 have the easiest places; 2 and 1 must work together in order that the boat may not be thrown off its course by unequal strength in the rowing at either side of the bow. These are the positions, then, and some of the qualifications which a coach would look for in each man when deciding which seat to give him. The coxswain is chosen for his light weight and skill as a pilot.

SOME GENERAL POINTS

Of course, the science of rowing is very complicated and to understand it fully one would have to study the anatomy of the body, and know just where the muscles lie, just where the leverage of muscle and bone is most powerful, and just how the greatest strength can be exerted with the least effort. But we cannot go into these matters at all. Let us rather speak of one or two points of bad form which critics agree upon. One of these is the tendency to "screw" or twist the body away from the medial line of the boat or toward the medial line. This is bad form; the body should not twist in making the stroke. Another point to notice is the management of the oar-blades. They should drop into the water to the full extent of the blades, but no more, and should be "feathered" without catching water. These things depend on the movements of the wrist.

AMATEUR ROWING IN AMERICA

Rowing apparently began in America about 1830, when Yale crews raced each other at certain fairs and holiday celebrations throughout New England. Not until twenty years later did the first intercollegiate race occur. The first race was between Harvard and Yale at Lake Winnepesaukee in New Hampshire. Since then the Harvard-Yale rowing matches have become popular features, like their annual baseball and football contests. Cornell, so prominent in rowing of late years under the coaching of Courtney, began rowing in 1869. The following year Thomas Hughes, author of "Tom Brown's School Days," visited Ithaca and got up a good deal of enthusiasm for rowing among the students by talking about the splendid chance for the sport which their lake afforded. Columbia has a rowing record, and Pennsylvania, too, has a crew of long standing. The University of Wisconsin and other western universities take equally keen interest in this sport. Of late years Syracuse has gained prominence in regattas, and Princeton, with her artificial lake, constructed especially for boating, is starting her career as a maker of crews. Intercollegiate regattas are held annually on the Hudson River at Poughkeepsie, with many colleges participating and with great enthusiasm. Amateur rowing clubs are also common, and well maintained.

BEHIND THE SPECTACLE OF A RACE

Oliver Wendell Holmes somewhere has a saying that when a man looks out at a fine elm, he does not see the tree. He sees its tail; the tree is underground. And the remark applies to what we see when we look out over an expanse of water, lined with pleasure-craft, motor-boats, barges, floats — all decorated with banners and bunting — at the races on the day of a great race. Those slim craft which hang at the starting line, with their eight young giants of rippling muscle stripped for action, are not mere boats and men. To the intelligent eye they represent much more. Behind them lies the brain of a coach and the brains of a whole line of coaches even, who have built up a boating tradition. To the making of these men and boats which we see have gone the skill of generations of boat-builders, working ever for little improvements in the craft; and the very boards in the craft have histories. They are the aristocracy, the royal family of boards, chosen for their quality. The very shoes which the men wear have years of experiment for their history. And when the pistol

cracks and the oars catch water, every fraction of an inch in the turn of a blade, every fraction of a second in the pull and recovery, every bend of body and turn of wrist has its history of weeks and years behind it. When the coxswain fingers the ropes which steer the boat, his touch is gentle; he feels the boat as a rider feels the mouth of his horse with the reins; she answers to his skillful touch like a living thing. When the stroke is raised from thirty-one to thirty-three and then is jumped to thirty-six for a spurt, every change means long study applied by practiced muscles. If the tree lies underground, to the eye that really sees, so does the picked crew suggest things not seen, which make its real interest.

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CANOEING

A CANOE is a very light skiff pointed at both ends, usually propelled by a paddle, but small sails are sometimes used on canoes and even light engines have been made for them.

The word "canoe" comes from the West Indies and was introduced into civilized speech by the Spanish explorers of those islands. The Eskimos use a canoe made of walrus skin, but the most wonderful canoes are those made of birch bark by the North American Indians, who are very expert in their use.

The pleasure in the use of the canoe comes from its lightness and from the method of paddling, which allows the boatman to face in the direction in which he is moving. Because of its lightness, a canoe can be propelled without great exertion, and it can enter very shallow streams and be guided with ease. For these reasons it can be used with comparative safety in rocky rapids and swift, shallow, and winding streams. It is not safe for open water, as it is too easily overturned.

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OFF FOR A WEEK'S CANOE TRIP IN THE WOODS

The start; upstream; a carry.

Canoe paddles are either single or double; that is, they have either one or two blades. In paddling with a double paddle the boatman sits in the middle of the canoe and grasps the middle of the paddle in his hands. He draws the blades through the water alternately, first on one side, then on the other of the canoe. This is the Eskimos' method of paddling. The Indian paddles with a single paddle. In doing this, one should sit as far back in the canoe as possible. The paddle is plunged into the water as far forward as can be easily reached and drawn smartly backward. At the end of the stroke it is "feathered," or turned in the water so as to present its edge to the front, and is pressed to one side or the other as may be necessary in order to steer the canoe. The great advantages of this method of paddling are that the canoe can be quickly and powerfully turned in either direction, and that the arms can be rested by paddling for a time on one side of the canoe and then changing to the other. Any active person can paddle all day without exhaustion with a single paddle. In racing with a single paddle the boatman takes his position nearer the middle of the canoe and a little to one side so as to tip it. In this position it is possible to paddle with a long and free stroke. A paddle should be light and strong and as tall as the person who is to use it. The blade should not be too broad, but it should be of good length and somewhat elastic. The stroke should have a good body swing to give it weight and power without calling too much on the muscles of the arms. The motion, when acquired, is as easy as walking — and just about as fast. Of course, if aided by a current it is much faster. It is not at all uncommon for a good paddler to make fifty miles in a day, downstream. When two are paddling in the same canoe, one sits in the bow and one in the stern, and they paddle on opposite sides of the canoe. The canoeist in the stern does the steering. Passing through rapids, when two are paddling, the canoeist in the bow must follow the directions of the one in the stern. A rock in a rapid sufficiently near the surface to strike a canoe will usually be shown by a ripple; but this ripple is about two feet beyond, that is, below, or downstream from the rock. Over a very flat-surfaced rock the water will sometimes glide in a smooth, glassy manner. The deepest water is broken by small waves. It requires much experience to run rapids well, and no beginner should undertake it.

Canoes are made from fourteen to eighteen feet in length. A fourteen-foot canoe is only fitted for one person, but will carry two. A sixteen-foot canoe is suitable for two persons and will carry three. An eighteen-foot canoe is suitable for two or three persons and will carry four. In taking a canoe trip, carry as little luggage as possible. A three-weeks' trip can be made by two persons with one hundred pounds of luggage, including tent, tools, and provisions. Always take an extra paddle when canoeing. As you will do much paddling from a kneeling position, you should have a good pillow or pad to kneel on, for sore knees are slow to heal and very uncomfortable. Always draw your canoe ashore at night. When cruising, make sure that your canoe has a strip of hard wood, or metal, along the keel to protect it from rocks and shore. You will often find it convenient to have a rope or "painter" attached to both the bow and stern of the canoe. When making a carry or "portage," fasten two paddles on the cross-thwarts of the canoe in the middle, leaving a sufficient space between them for your head to pass through. Then roll up your coat, or a sweater, or other garment for a pad, and put it on your shoulders. Invert the canoe and lift it to your shoulders so that it rests by the paddles on your shoulders. In this fashion you can carry it with ease. If the canoe is heavy, let two carry it, one at each end, but in the same manner. The best way to carry luggage is by a "tumpline," that is, a wide strap that passes over the forehead and around the bundle of luggage, which is on the back, partly supported by the back and partly by the tumpline. An experienced Indian will easily carry a canoe and a hundred pounds of luggage in this fashion.

Birch-bark canoes are repaired by cementing the break with a mixture of tallow and rosin. A hole may be patched with a piece of bark fastened on with this compound. Do not undertake a trip in the woods with a birch-bark canoe without a good lump of this mixture. Cedar canoes paddle more easily than bark canoes, but are heavier to carry and not so safe in a rapid, nor so easy to repair.

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A SAILING PARTY THAT CAME TO GRIEF, AND A MOST EFFECTIVE RESCUE

WHO WOULD N'T ENVY THESE SAILOR LADDIES IN THEIR HAND-ÇRANK OR PADDLE-WHEEL BOATS?

HOW TO SAIL A SMALL BOAT, OR POINTERS FOR THE BEGINNER IN THIS PRIME SPORT

ANY boy can sail with the wind, in almost any sort of a boat, but sailing back against the wind requires a little more skill. How a boat can be made to sail ahead with the wind on one side instead of behind can be understood from an experiment on land. Set a sewing machine on castors in the middle of the floor and push against one side. Anything except a perfectly square push will start it rolling in the direction of one end or the other. So it is with a boat. Because she is long in proportion to her width it takes less power to move her ahead than sideways. For the same reason a sailboat is always built with either a keel or a centerboard to increase the resistance to a sideways push without increasing the resistance to a forward impulse.

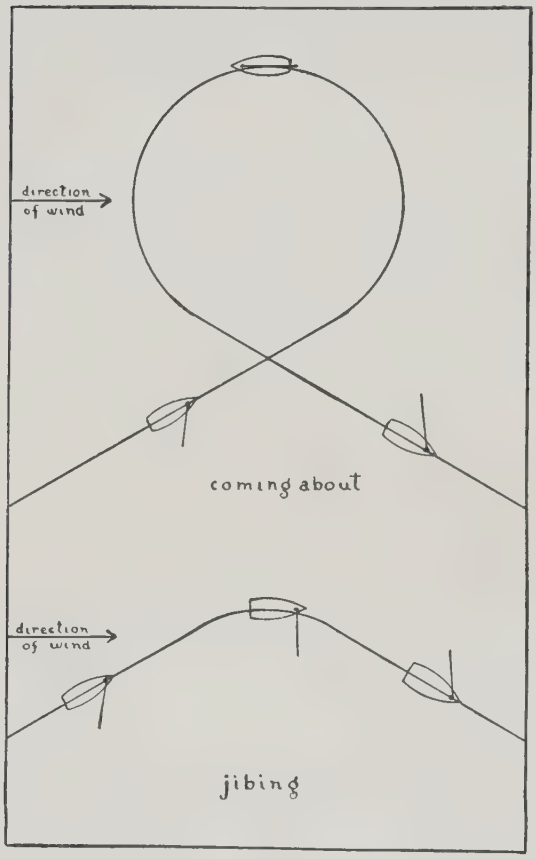
The quickest and best way to learn to sail is to get the help of somebody who knows how. Some boys who would like to sail cannot do this. For them I will explain a few principles, with which as a basis they may work out the practice for themselves. And practice is the great teacher in sailing, as in most things.

UP SAIL AND AWAY

Before hoisting the sail, head the boat directly into the wind and tie her with a short painter. "Painter" is the sailor's name for the rope fastened to the boat's bow and used to tie her to a stake. Push down the centerboard, if there is one, as low as possible without bringing its top below the bottom of the boat so as to leave a gap. Make sure that the sheet (that is, the rope fastened to the end of the boom that holds it at the desired angle with the boat) is clear — free from kinks and tangles — and unfastened. Hoist the sail well up, the throat a little ahead of the peak, as it hoists easier in that way. When you are ready to start cast off the painter, give the bow a good shove in the direction you want to take, and trim in, that is to say, pull in the sheet. The sail will fill and the boat will begin to move, sideways at first, but ahead in a few seconds. Until the boat begins to go ahead, keep the tiller to windward (that is, on the side away from the sail); then bring the tiller back slowly so as to make the boat sail a straight course. With the sheet well trimmed in (pulled so that the end of the boom is near the boat's side) you can now proceed to find how close to the wind your boat will sail by heading her up, that is, bringing her nose toward the wind, a little at a time until the sail begins to flap. When the sail flaps, the boat is headed too close to the wind; so head off and try again. After a little practice you will be able to check the boat an instant before the sail flaps. This point will be about as close to the wind as your boat will sail to advantage.

TACKING

When you have gone as far as you can or care to on this tack, that is, with the sail on this side, push the tiller to leeward, that is, toward the sail, taking about three seconds or less to put it hard over. This will throw the boat's head into the wind and the sail will flap. As the boat



CONTRASTED METHODS OF TAKING A TURN: ONE SAFE, THE OTHER RISKY

continues to turn, the sail will cross over the boat and fill on the opposite side, and you will then be sailing on the other tack. The tacks are named according to the side of the boat which the wind strikes first. Thus, when your sail is on the starboard or right side of the boat, the wind strikes first the port side, and you are sailing on the port tack. By making a number of tacks you can work your way to windward on a zigzag course. You will understand this better by looking at the large diagram. From the starting point at the right the boat has worked by a zigzag course to the left side of the drawing, right into the wind. The very best boats will sail within four points — that is, one-eighth of a circle, of the wind — so that the angle between the legs of tacks is a right angle. But a boat does well that sails within five points of the wind, making an angle somewhat less than a right angle between tacks. Tacking, or making to windward, is the best test of skill in sailing and can be mastered only by practice. A boy who can tack well is generally able to handle his boat well in other directions. (*Leeward* is pronounced loo′-ard.)

To sail farther off the wind than this, head the boat off, and at the same time slack out the sheet a little. Trial will tell how much. The guiding principle is that the sail should always be nearly at right angles to the wind so as to catch its full force.

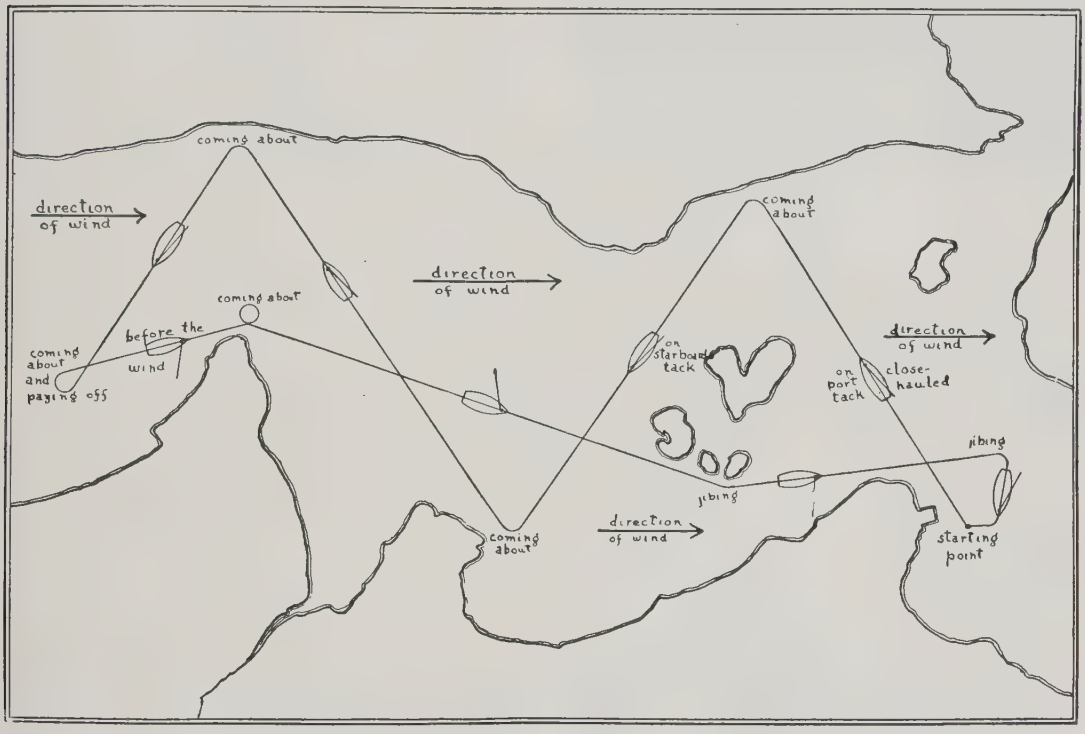
JIBING — QUITE ANOTHER THING FROM TACKING

When you are running dead before the wind the sail will therefore be at right angles with the boat, and you must be careful not to head the boat too much toward the side the sail is on. If you head that way so far that the wind strikes the boat on that side, the sail is going to take the first chance to go to the opposite side, for the sail will always go to the side away from the wind. When the sail does come over with the wind astern it comes with a bang, and the full force of the wind behind it. This is called "jibing," and must be distinguished from "coming about." A study of the smaller diagram will show that in coming about, the sail moves in gradually as the boat turns, with the mast always going toward the wind, so that the sail will just flap over the boat. But in jibing the sail swings over, with the leech, or after edge, into the wind; and the motion is sudden and very violent. Until you are familiar with sailing, it is dangerous to jibe, for you are liable to snap the mast off, or break the boom, or capsize the boat. When you can sail well, and the breeze is light, you may jibe by heading up a little and trimming in the sheet, then heading off again and slacking the

sheet out quickly as soon as the sail goes over. This way of jibing prevents the sail from coming over with such a rush and removes some of the danger. But even so it takes only a little longer to make the complete turn and come about, which is the only safe way. To avoid jibing remember that it is only necessary to push the tiller toward the sail, so that the bow turns toward the wind.

almost directly from the stake to the boat, head up for the stake, that is, dead into the wind. The sail will flap, and the boat will gradually lose headway, so that if you have estimated the distance correctly, her bow will just come alongside of the stake. If you have too much headway, you are liable to tear your sail on the stake as you go past.

The very best plan is to take with you an



A PRACTICE SPIN IN CONSTRICTED WATERS

If you will follow the boat from her starting point at the right-hand side and note the position of the boom as she takes various positions "on" or "off" the wind, you will learn much about boat-handling and sail-trimming.

MAKING A LANDING

If you have mastered the details of what I have said, you can start out and sail almost anywhere. But now a word is necessary as to making a landing. I assumed in the beginning that the boat was tied to a stake, so that she might be headed into the wind, whatever its direction. Now suppose that you have sailed long enough and want to tie up again. Sail toward the stake, but about twenty-five feet or more to leeward of it. When the wind blows

old bottle or a block of wood when you start out, and throw it overboard where you have plenty of room on all sides. Now practice running up alongside of this, so as to lose all headway just as you reach the bottle. A few trials will soon show you how far the boat will shoot after the sail flaps.

Sometimes you may find it necessary to land at a dock so placed that you cannot head your boat directly into the wind. Then you must head as close to the wind as you can and let go the sheet not less than sixty feet from the

FROM THIS FRAIL STAND ON THE SCHOONER'S BOWSPRIT THE DARING FISHERMAN HARPOONS THE SWORDFISH

dock. With the sheet loose the sail has no pulling power and you should have no trouble in stopping the boat. This manner of approach you should practice with the bottle as before, where you have plenty of room and where there is no danger of smashing the boat or tearing the sail.

SQUALLS

For the first few sailing trials you should be careful to choose days when the wind is *steady* and not too heavy, for the hardest thing about sailing is to learn to take care of squalls. A puff of wind a little harder than the average will show itself on the water as a patch darker than the rest of the surface. By keeping an eye out to windward you can see these patches far enough ahead to be ready for the squalls which they indicate. There are two ways to meet a squall. The first is to head up a little, just as the squall strikes. This throws the wind out of the sail for an instant and the squall passes by. The second is to let go the sheet when the boat begins to tip too much. As I said before, when the sheet is loose, the sail has little power. As a general rule, meet the squall first by heading up; if in spite of this the boat tips too much, slack the sheet.

WHAT THE DIAGRAM SHOWS ABOUT COURSES AND TACKING

Let me illustrate what I have said above by a diagram. I have drawn a river and the course one might take in sailing down it and back with the wind as shown by the arrows. Start from the stake at the right and trace out the course, seeing how the sail was placed with reference to the wind, how the boat turned each time, and what happened to the sail as the boat turned. On the return course up the river I have shown both how you come about and how you jibe before the wind. Be sure to trace out the difference between the two ways of turning.

If you study the diagram carefully you will have little trouble in starting out for yourself — and in getting back again safe and sound. But, of course, you will know how to swim; you will begin in a safe and not "cranky" boat; and will take someone of experience with you for a few trial trips. Running risks is silly. In case of an overturn, jump clear of the boat and swim back to it. Do not cling to it as it goes over.

A FISHING SCHOONER CLEANING UP AFTER A TRIP

This view of the cluttered gear and tackle of a typical New Bedford fisherman is a pleasant reminder of summer days.

YACHTS MANEUVERING. RULE 30 IN EVIDENCE

A perilous attempt to gain an advantage in rounding the stake boat.

WATER POLO

WATER polo is a game which is sometimes used as a means of developing ability in swimming, since it affords practice in treading water, floating, swimming fast, etc.; but the game is worth playing for its own sake.

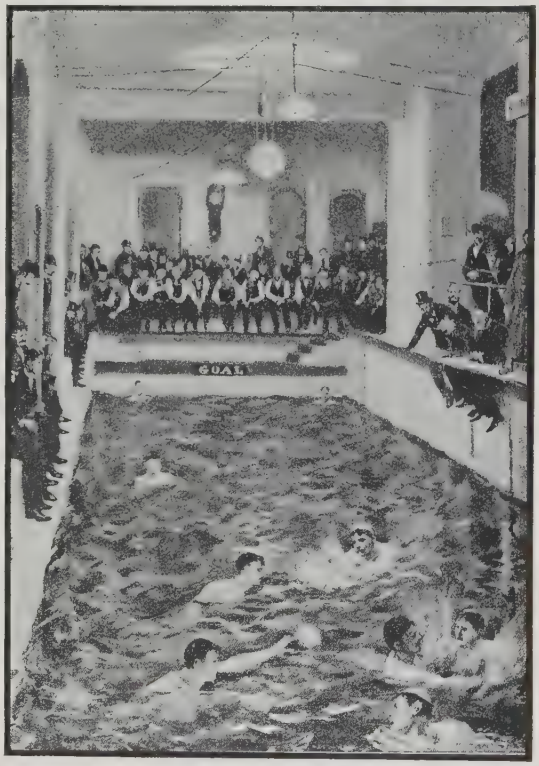
It requires a stretch of open water at least twenty yards long, and, say, half as wide. Goal-posts, two feet apart, should be set up at either end of this stretch, and a crossbar arranged three feet above the surface of the water, unless, as is often the case in an indoor pool, the water is less than five feet deep at one end. In that case the crossbar should be eight feet above the bottom of the pool, at this shallow end. The only other requisite is the ball, usually about twenty-eight inches in circumference, which is round and must be fully inflated.

Seven men compose a team, three playing as forwards, one at halfback, two at fullback, and one at goal. For forwards, the fastest swimmers and the most accurate shots should be chosen. Heavier players are best as backs. All must be able to use a fast breast-stroke, like the "trudgen"; all must be able to turn quickly in the water, and to pass and throw accurately. The duties of the forwards and backs are like those of any game — soccer, hockey, or basketball — where the team is divided into forwards and backs. In fact, water polo players rely on the same tactics — on dribbling, passing, and guarding opponents.

The game is opened by the referee throwing the ball into the center of the field of play. Immediately the teams, which have been lined up at the goal-line, plunge in and make for their individual positions. The two center forwards usually make directly for the ball; the wing forwards get toward the middle, a little to the sides, ready to take a pass if their center succeeds in reaching the ball first; the backs take up positions in front of the goal and watch the ball.

The ball may be hit or thrown by any one of the players provided he does not stand on bottom or use both hands. It may also be dribbled through the water or passed. Fouls are called for using both hands, for standing on bottom, for holding the rail or side during any part of the game, for ducking an opponent who does not have the ball in his possession, and for roughness of play. The penalty for fouling is a free throw for the opposing side from the spot where the offense occurred.

To succeed as a player of water polo, one has



to learn to manage his body in the water. On this depends success in throwing the ball accurately and with force. The two throws to practice at first are the "forward shoulder throw," made by lifting the ball from the water to the side of the head with the left arm out in front and the legs drawn up; and, secondly, the "back throw," made by turning on the back with the legs in front. When shooting for a score, one should learn the ricochet throw, in which the ball strikes the water a few feet in front of the goal-keeper with enough force to bounce up or to the side and enter the goal. These are the commonest throws.

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TOP: A JOLLY BOAT-LOAD. NOTE THE CLEVER BRACING OF THE CROSS-BEAM. MIDDLE: SQUALLS HIT ICE AS WELL AS WATER, AND WITH SIMILAR RESULTS FOR THE UNWARY. BOTTOM: SKATE SAILS MAKE EVERY MAN HIS OWN ICE BOAT

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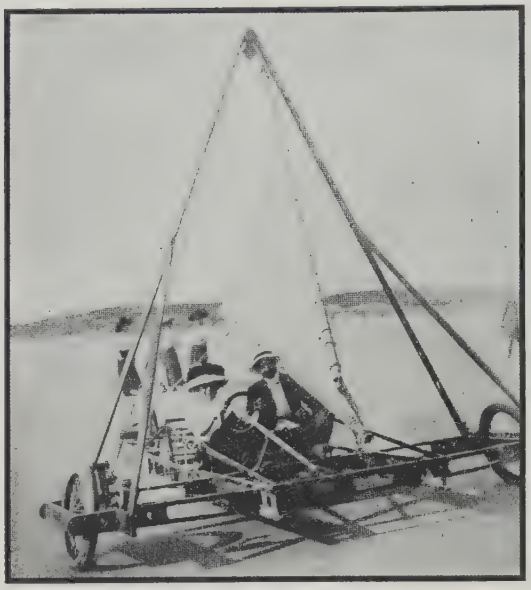
AN AIR-MOTOR SLED THAT ATTAINS HIGH SPEED OVER SMOOTH ICE

SPORTS FOR SNOW AND ICE

THE EXHILARATION OF ICE BOATING

THIS invigorating and exciting sport can be enjoyed wherever a sufficient surface of clear ice occurs. An ice yacht is not an expensive luxury nor does its construction require a very high degree of skill. An ice boat is supported on three skates, one of which is movable and serves as a rudder. These skates are fastened to the ends of two beams joined in the form of a T. At the intersection of the beams the single mast is set. The sail used is a simple "fore-and-aft" sail of the catboat type. As a matter of fact, ice boats are usually rigged with sails borrowed from catboats or small sloops that have been laid up for the winter. The width of the structure, that is, the length of the beam supporting the two fixed skates, determines the size of sail that can be safely used. There is little advantage in too large a sail, as it will call for frequent luffing (sailing into the wind so as to relieve the pressure on the sail), and more headway will be lost than can be made up by the extra power of the sail.

As speed is the thing sought in an ice boat, we will confine our attention to the things upon which speed depends. The actual construction of an ice boat is so simple that a picture tells all that needs to be known. Of first importance is the rigidity of the frame. All loose wabbling increases friction. Look well to braces and joints. See that everything is firm and taut. Do not sacrifice strength to lightness. True joints, clear timber, and careful bracing, however, are more effective than mere weight of timber.



THE AËROPLAGE

Invented by Blériot, the French flier, and used for sailing on the seashore.

Too much care cannot be expended, in securing the skates, in seeing that they are absolutely parallel. For testing this do not depend upon the edges of the timber. The best of timber will warp. Draw a cord tightly from the joining of the skate to the opposite joining point, and test by the line thus formed.

The beam should rest well back of the middle of the skate, which should have sufficient up-and-down play to ease it over the irregularities of the ice. The two fixed skates are sharpened to a chisel edge, the flat of the chisel being on the outside. The steering skate is sharpened to a V edge. A smooth, true edge is necessary. Speed always comes from nice adjustments. So far as it depends upon the structure of an ice boat, speed is a matter of attention to minute details.

A perfectly setting sail is important from the closeness to the wind which an ice boat is called upon to sail. For this reason sails that are not too long on the boom are apt to do better.

A point the importance of which is often lost sight of is the length of the beam that carries the rudder skate. On this beam the cock-pit is fastened, which carries the crew, the principal weight of the craft. It is important that this be well back from the forward skates, so as to correct all tendency to pitch forward. The tendency of the forward skates should be to lift on the slightest provocation. All tendency to dig, head down, into the ice is destructive of speed. Keep all weight, therefore, well back.

But far more depends upon the skill with which an ice boat is managed than upon its construction, and this skill is less easy to impart. The actual speed of an ice boat, at its best, is often exaggerated, but is nevertheless very great. On the Hudson River these craft have often beaten the fastest express trains of the New York Central Railroad. To do that means a speed in excess of fifty miles an hour.

Many people are puzzled at the possibility of a craft that is driven by the wind traveling faster than the wind. Of course, if it is going in the same direction as the wind, it cannot exceed the speed of the wind. But it is not in this direction that the ice boat attains its highest speed, but across the wind, or at an angle approaching a right angle to its course. Traveling in this direction, no matter how fast it goes, the pressure of the wind remains constant. The boat is not traveling away from the wind. Therefore, as it gathers momentum, its speed must increase. Just how fast an ice boat can travel has never been demonstrated for lack of room in which to make the trial.

Now, because of this peculiarity of ice-boat sailing, two factors of great importance in the art of racing them arise:

First, steadiness of nerve. Ice-boat sailing calls for a firm hand and steady nerve. The very speed is disconcerting to weak nerves, and a weak or irresolute hand at the helm is certain to flinch or waver and fail to give the boat what she can stand. In no sport is nerve at such a premium. Not that the actual danger is great, but that the strain of high speed is too great for weak nerves.

Second, skill in getting quickly under way. As the ice boat increases its speed with the distance it travels across the wind, it is obvious that quickness in gathering momentum is of more importance than any other single factor. A very inferior boat that is allowed to gather momentum first will inevitably win. Let the

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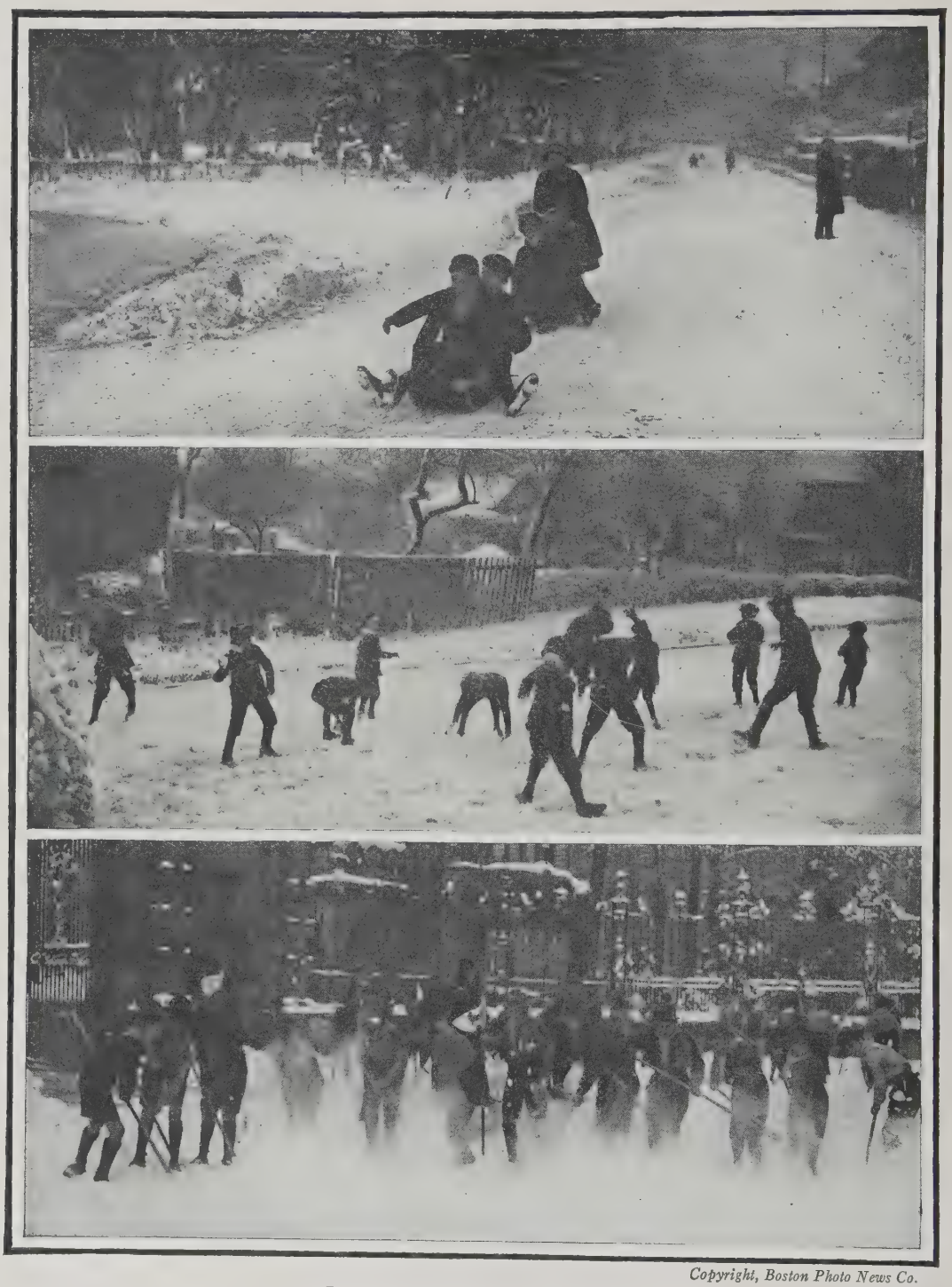
CURLING AND PLAYING HOCKEY IN ST. MORITZ, SWITZERLAND; ICE BOATING IN NEW ENGLAND



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THE GOOD OLD DAYS OF WINTER

Sliding down hill in the country. The boys in a snowball fight. Shoveling the path after the blizzard storm.

learner seek to acquire the ability to get his craft quickly under speed. To do this requires a very delicate hand at the helm. The boat must be coaxed, humored, and when all is right given all that she will stand, without sudden movement or violent alterations. Here is room for the development of a very high degree of skill. Of course, the same foresight in taking advantage of favorable slants of wind applies in ice boating as in ordinary sailing. But it is to be remembered that an ice boat is at its best quartering slightly into the wind. Another point to be borne in mind is that wind over ice is not retarded as it is over water, so that it is not worth while to seek upper currents with tall masts and peaked sails. These cause an ice boat to plunge without any corresponding advantage in speed. Keep your boom low. The boat will sail better, and the danger of tripping, where waves do not exist, is too slight to be considered. Experienced ice yachtsmen say that the wind actually seems to be swifter close to the ice. Theoretically this could not be true, as the friction of the air passing over the ice, however slight, must be something. But theories are unsafe guides in the face of experience. There may be some reason that we have not guessed for the well-nigh universal belief of old ice-boat sailors. At any rate, let the helmsman take advantage of the experience of others and seek as much as possible the low currents of air that will be found in midstream if sailing on a river, or at a distance from the shore if on a lake.

Remember that ice-cracks form rapidly, and keep a sharp lookout for them and for air holes. As speed and not cruising is the pleasure of ice boating, it would be advisable not to wander into untried ice. Go slowly over the sailing course and learn its defects before venturing at speed. Even so, remember that ice can change with great rapidity and it must be constantly watched, with ears as well as eyes, for an approaching crack.

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AT THE BOTTOM OF THE HILL. AN OLD-FASHIONED SLEDDING PARTY

AN EXCITING ADVENTURE

I was on the St. Lawrence River, one winter, at the Thousand Islands, and on the Canadian side. We had done much ice boating, and when

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THE ANIMATED ICE BOAT

Three simple poles lashed together, with light duck tacked over them, are all the wings a skater needs to send him scudding over the ice.

the time came for my return home, as the ferry was closed and the way around by rail somewhat long, it was suggested by my friends that we make the trip by ice boat. The river at that point is nine miles wide.

Our way was a winding one between many islands and we struck much rough ice and occasional windrows of light snow. At last, and none too soon, for train time was near, a wide sheet of apparently smooth and clear ice lay before us, and the wind favored speed. How we flew over the ice! In less time than it takes to tell it, we were upon what in the distance had appeared to be a gleaming sheet of smooth ice, but which was in reality a great field of sharply uptilted cakes, frozen solid, each as hard as granite. To have struck that horrible mass of jagged points would have been instant death. At the helm we had the best boatman on the St. Lawrence River. Up, up, up went the windward skate as we went about. Our momentum was terrific, and the tilted skate overhung the broken ice by more than a yard as we came into the wind and with shivering sail and white faces found ourselves at a standstill. So great was the relief that the walk over half a mile of foot-bruising broken ice to shore seemed a luxurious pleasure.

SKATE SAILING

This exhilarating sport may be indulged on any outdoor ice of sufficient size, and one may practice on a very small pond. The skater provides himself with a sail of light drilling, and uses his body as the mast, standing erect and sailing himself much as if he were an ice boat. There are many patterns of sails, but the best are not so long as to risk interference with the ice or the skater's feet. A very bad fall may result from such a mishap. Sails are sometimes made in pairs and carried one on each side of the skater. Such a sail arrangement is more effective before the wind, but less so across the wind. As most sailing will be done across the wind, the single sail is a better arrangement. This may be constructed on any pattern that suits the skater's fancy. It should be light and not too large. The difficulty of handling a large sail more than counterbalances any additional speed that can be gained by its greater power. Of course an expert can handle a larger sail than an inexperienced skater.

The spars must be very light and strong. Bamboo is an excellent material for this purpose. The sail itself should be made of a light, strong cotton drilling. There should be two crossed spars, one of which should be of sufficient strength to bear the main pressure of the sail, and by this the sail should be carried. The other may be lighter and is used to stretch the sail. It fastens into loops at the corners of the sail, arranged according to the shape of sail that the skater has chosen. A spread of four by five feet is sufficient. The sail is carried by crooking

the elbow about the main spar. If the sail is a double one, that is, a sail on each end of the main spar, it is held by crooking the arms about it and letting the spar rest in the hollow of the back. In this position the sail is very firmly held. A single sail is held by crooking one arm about the spar and grasping the spar with the other hand. It rests on the hip and is held in the other hand. The management of the sail is on the same principle as in ordinary sailing. The sail should be so held as to pull rather than push. The reverse is done by many skaters, but there are two or three strong objections to it. First, the sail pushing against the body is wrinkled out of shape, and the smoothness of its surface is important for speed and even work; second, a sail that is so held as to push cannot be quickly let go in case of an emergency, while one that pulls can; third, there is always danger of a sail that pushes becoming tangled in the feet. For all of these reasons the learner will do well to accustom himself at the very beginning to the pulling method as the better form. It is very much more graceful in appearance to be drawn by your sail than to be pushed by it. The important thing to master is the handling of the feet and body. The sail should be moved as little as possible. Steer the *body* and keep the sail as firmly stationary as can be. It is of course impossible to do this absolutely. The movement of the sail is the equivalent of slacking and tightening the sheet on a boat. As any sailor knows, this needs to be done but seldom and with moderation. Many a ship sails for months without altering the trim of her sails. A small boat is continually trimming the sheet, and of course skate sailing is even more irregular in its action than a small boat, but the better the sailor the less he will be trimming his sheets. He will manage by the helm, and, in the case of the skate sailor, his body is the boat and his feet are the helm. Care must be taken to keep the feet parallel, one foot slightly in advance of the other. This gives more stability. Do not try keeping the feet too close together. Nothing is gained and much is lost by so doing.

The greatest enjoyment will be found in sailing back and forth across the wind. In this way there will be no need of hard skating against the wind, in order to return to the starting point. Skate sailing requires a fairly smart breeze. This is mainly because there is little pleasure to be had unless a considerable speed is attained. To be merely blown slowly about the ice is rather a tame experience. At the same time it will be best for the learner not to try too stiff a breeze at first. He will find his sail a very awkward thing to handle until he has become used to it. A large part of the difficulty will consist in the awkward feeling and lack of the experience needed to handle the sail with ease. This accomplished, anyone of intelligence can learn the art of steering and managing himself under sail. As in all sailing, the sailor must never for an instant be unmindful of the direction of the wind. It will come to be a second instinct to place this accurately at all times. This is his engine, his motor power. It can either propel or wreck him, as he uses it.

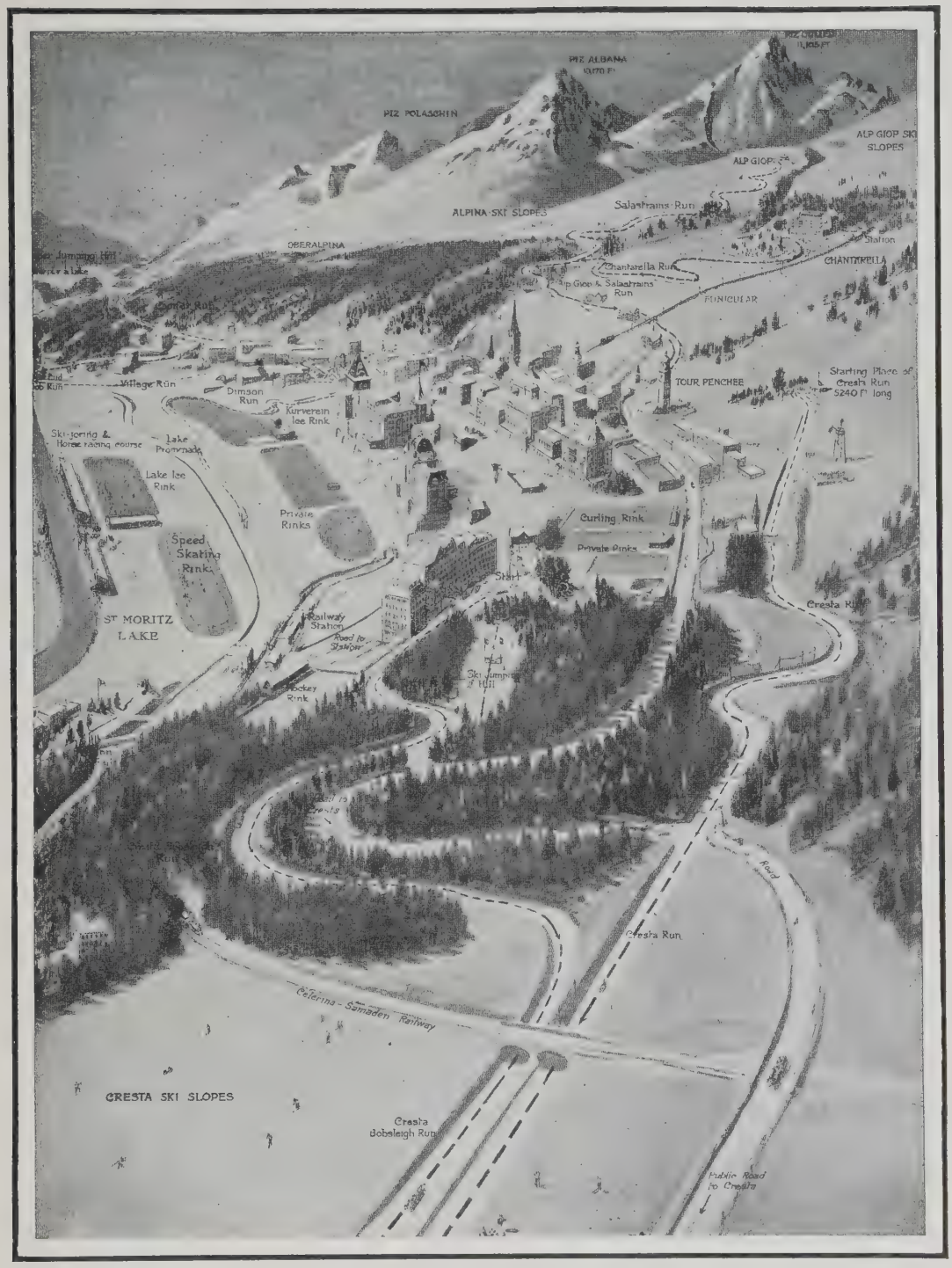
In racing with skate sails, ample space should be allowed, as the skater will often need room for his evolutions. The marks should be placed either for a straightaway, a straightaway and back, or over a three-cornered course. A three-cornered course should be so arranged, whenever possible, that the longest legs of the angle are across the wind. The skater who passes another should pass to windward, or outside of his opponent. As in boat sailing, the skate sailor who gains the most windwardly position has a decided advantage. The start, therefore, should be a flying start, which will give each an equal chance to secure the coveted windward berth, not by chance but by skill and management. Although it might seem that skate sailing was a very lazy way of skating, and has none of the fine exercise to be had by the skater who employs no such aid, as a matter of fact the reverse is true. Skate sailing is quite a strenuous pastime. The skater will find himself very thoroughly and very actively occupied.

He should be warmly dressed about the body, preferably in a sweater or other close-fitting garment. The feet will have rather more than less exercise than in skating, and will be easily kept warm. One should have very warm gloves, as it is impossible to avoid a sharply exposed position of the hands.

A skate sail should be made so that it can be conveniently furled, so that the skater may easily lay it aside and enjoy the more conventional method of skating whenever he wishes.

TAKING THE BANK AT TOP SPEED

This is a scene on one of the bob-sled runs that you may see depicted on the next page. In these steep runs the curves are purposely sharp, and in rounding them the boys climb high on the carefully made banks.



WHAT ST. MORITZ, SWITZERLAND, PROVIDES FOR THE LOVER OF WINTER SPORTS

St. Moritz is one of several Swiss towns that make a business of furnishing every sort of winter diversion for the tourists who come from far and near to skate, ski, and sled, and then enjoy steaming meals and evenings by the crackling fire.

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SPEED SKATING AND CUTTING FANCY FIGURES

TURN THE BOOK UPSIDE DOWN AND SEE ALMOST AS GOOD A PICTURE OF THE SEVEN SKATERS

SKATING

THIS delightful sport might almost be called an art, at least as much so as dancing, which, in some respects, it resembles.

There is little use of giving hints as to the first elements of skating. The beginner will find that his ankles are very weak. This is partly actual weakness, because the muscles are unused, and partly inability to make the correct adjustments of balance, thus throwing too much strain on the ankles. The latter is the principal source of the trouble. As soon as the skater learns to keep his balance the ankles do not have so much work to do. Learn slowly. Stand around on the ice with your skates on and take an occasional stroke when you feel sure of yourself. As soon as you can, accustom yourself to the use of the outside edge of your skate. All good skating depends upon the mastery of balance while skating on the outer edge. To skate on the outer edge, hold the ankle erect and lean the entire body outward sufficiently to throw the weight on the edge of the skate. These edges are sharp, and they will hold you much more securely than the flat bottom of the skate. They are not nearly so liable to slip out from under you as the flat of the skate.

While skating on the inner edge is used in making certain figures, it does not need to be practiced, for anyone who can skate on the outer edge can easily skate on the inner edge, but the reverse is not true. A beginner who has learned to skate very well on the inner edge will often find it more difficult to master the outer edge than one who has never learned either. Therefore it is better to begin with the outer edge. You will find that this skating on the outer edge has a tendency to carry you forward in a series of graceful, alternating curves.

THE ROLL

The roll, or, as it is sometimes called, the "Dutch Roll," is an exaggeration of this natural curve of the outer edge skating. It is accomplished by swinging the free foot wide and bringing it around with some force toward the end of the stroke until it crosses the foot that is on the ice. By reaching well across this foot and bringing the free foot to the ice, at the same time transferring the weight to it, and raising the foot that is just finishing its stroke, a new curve in the opposite direction to the first is formed. This new curve will slightly overlap the first. It is in this that the roll differs from ordinary outer edge skating. Many people think that they are skating the roll when they are doing simple outer edge skating with a wide curve. The roll has this distinguishing feature, that the strokes overlap; that is, the new stroke begins a little back of where the first ends. This is accomplished, as indicated above, by crossing the leg well over before beginning the new stroke. The leg that is now free repeats the operation. The impetus is gained partly by the force of the swing of the free leg, and partly by a little push that is given just as the first foot is raised from the ice. The roll should be the first fancy skating learned after mastering simple outer edge. It is the basis of most figure skating. After learning to skate the roll forward, the learner must master skating the same figure backward. This is quite difficult, and will require much patience to master. The motion, of course, is the reverse of the forward roll. The free foot is crossed behind, instead of before, the stroke-foot, and the impulse is given backward. The body also leans backward. When the forward and backward roll are mastered, most figure skating will become very simple.

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A CHAMPION FIGURE SKATER AND HIS WIFE IN A GRACEFUL DUET

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THE JOYS OF SKATING, FROM THE BEGINNER TO THE EXPERT

THE GRAPE VINE

This is an old figure and not at all difficult. It is interesting rather than graceful, and contains the elements of figure skating, particularly of writing on the ice, that are not in the roll. The grape vine may be described as a series of alternating diamond-shaped figures and lens-shaped figures. It is performed without lifting the feet from the ice. The diamond (the sides of which are slightly hollow) is made by turning around on the ice and at the same time crossing the feet. This is the motion to master first in learning to do the grape vine. For the lens-shaped figure, the feet are crossed, one skating outer and the other inner edge, and then they are brought together and crossed on the opposite side. At this point comes the turn that accomplishes the diamond. It will be seen that, as the turn is made at each crossing of the feet, the skater will be faced in opposite directions on each alternate stroke. He does not therefore skate in opposite directions, but makes one stroke backward and one stroke forward. The backward stroke is usually the one made first.

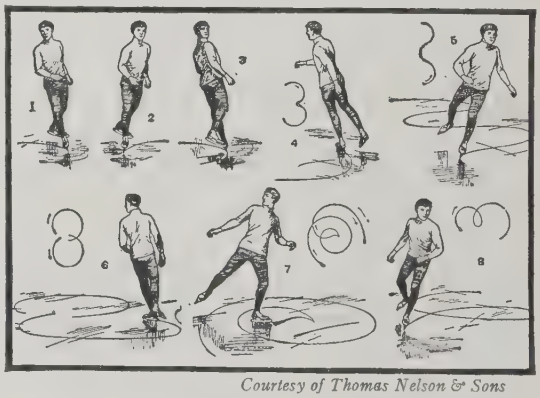
THE SPREAD EAGLE

This is another old figure, if it may be so called. It has but little place in figure skating, and is not graceful. It may injure the skater. It consists in suddenly turning sideways to the direction of your progress and by giving a little jump, at the same instant, turning the toes out so that both feet from heel to toe fall as nearly as possible into a straight line. If they are absolutely in a straight line the line of progress will be in a straight line, and, as the friction will be reduced, the body appears to give a little arrow-like shoot forward. If the feet are not in a perfectly straight line, the line of progress will be a wide curve, and will sometimes, when the skater's momentum is sufficient, cause him to describe a complete circle. As this is a "stunt" pure and simple, and may cause a strained ligament and a bad fall from tripping, since it can only be done with any success when at full speed, it is a dangerous figure and not worth while. A modified spread eagle, which describes a small circle and requires only a partial spreading of the knees and ankles outward, enters into some fancy figure skating.

It is useless to attempt to describe the innumerable and more or less complicated figures used in fancy skating. Each good skater has his own. All of them consist in modifications and combinations of the primary figures mentioned. With these mastered, the skater may follow any diagram or invent new patterns for himself.

DANCING ON THE ICE

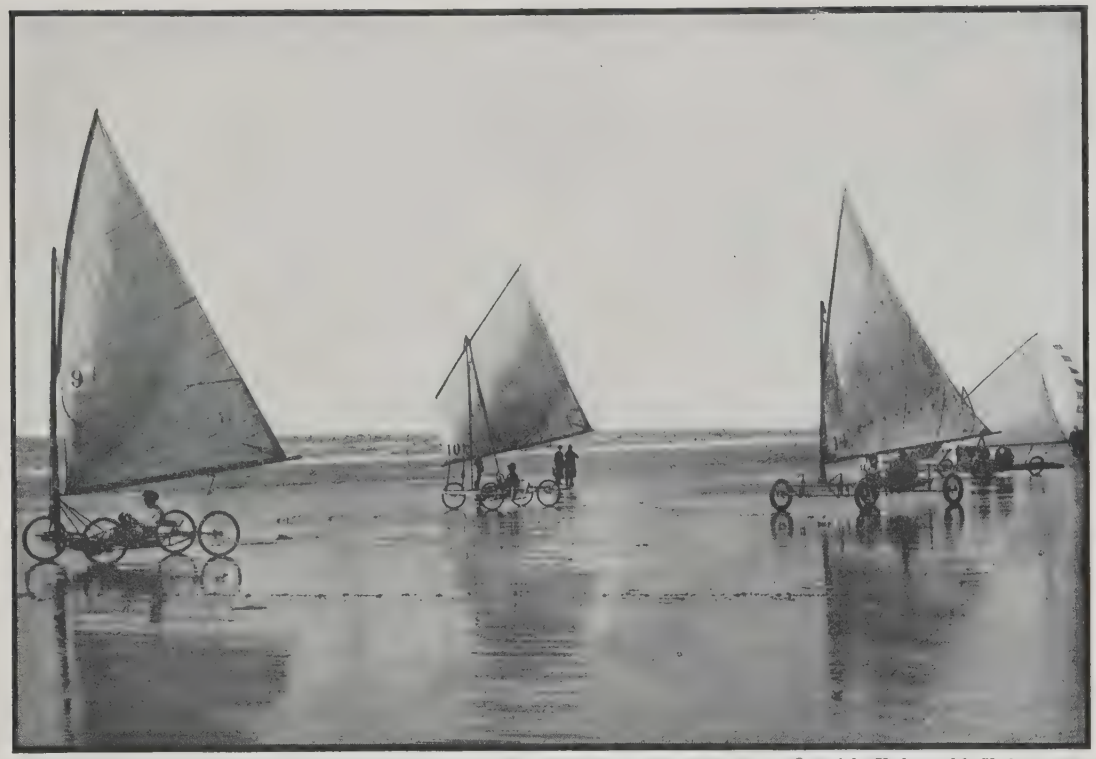
The steps in ice dancing are performed with short strokes alternating with long ones. This motion of short and long produces the rhythmic effect. In all other respects, it may be modified to suit the fancy of the skater. There is no dance that cannot be performed on ice, but it is seldom that enough good skaters can be found, of both sexes, to make up a dancing set. The principal difficulty is that there are no settled rules for making appropriate strokes for the different dances, and no two skaters do it alike. Partners must practice together before they can skate together. The only thing that is at all fixed, and must remain so, is the principle laid down in the beginning, that the rhythm is the result of an alternation of short and long strokes. At the same time it should be remembered, as in all skating, that the principal motions are those of the body. As always, the body leads and the feet follow.



Courtesy of Thomas Nelson & Sons

FANCY SKATING FIGURES

1. Outside edge forward. 2. Inside edge forward. 3. Outside edge backward. 4. Figure three turning. 5. The serpentine. 6. Figure eight. 7. Pig's ears. 8. The loop.



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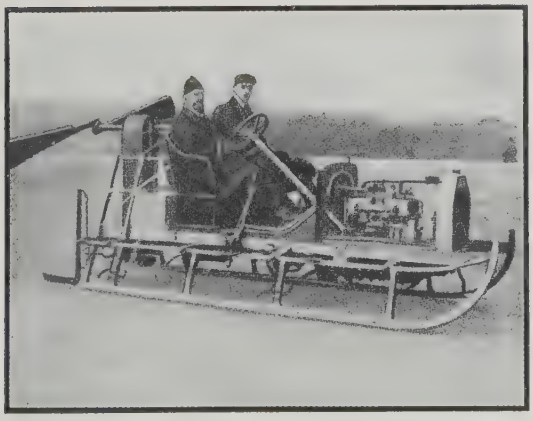
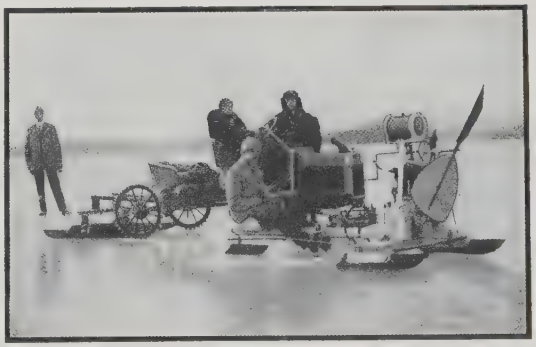
SAILING ON THE LAND

We all know about the automobile races that are run off upon the hard-packed sea-beaches of Florida. On the coast of France the smooth, glistening surface of the sandy shores is sometimes put to an even more curious use. Boats like those in the picture sail swiftly up and down, sometimes joining in races at an astonishing speed that reminds the spectator of the dangerous and thrilling sport of ice boating.



NOVEL METHODS OF LOCOMOTION—AN AËRO-SLEDGE

The picture represents a novel form of motor-driven sledge, devised by an Austrian. It can be driven twenty-five miles an hour over snow and double that speed on ice.



THE MOTOR ICE BOAT

A novel application of the gas engine to the ice boat. This vehicle travels on runners and gets its propulsive effort through an aëroplane tractor screw. On one of the American lakes an ice boat of this description was pitted against a motor sleigh which drove through the medium of toothed wheels gripping the ice. The ice boat won easily, and its speed is reported to have been seventy-five miles an hour. Here opens up a new winter sport.

ICE HOCKEY

"SHINNY on your own side! Shinny on your own side!" This was one of the calls most common among boys when I was a boy. Even the memory of the words calls to mind the first skating of the year, and how, some way, word got about town that the ice on Factory Pond "would hold." Then every boy in town got his chores done with remarkable speed, tried his skates on in the house amid his mother's warnings not to cut the carpet, and started across lots. Frequently he had a hockey stick bought at the village store for ten cents, but often he stopped at the first patch of woods on his way to the pond and found a limb of the right size and shape which he could cut with his jack-knife. Armed with various crude sticks, the boys drifted over the fields and roads from different parts of the village toward that great magnet, the pond. "Shinny on your own side! Shinny on your own side!" The man who cannot hear that call from the past has missed something in life.

THE OLD-FASHIONED GAME OF SHINNY, AS BOYS PLAY IT

One might say, I suppose, that there are two games of hockey, — that which we used to call shinny, and the scientific game of hockey. Shinny used to have few rules. Every man played his own game, more or less regardless of others, and just as some people say the world is divided into two kinds of women — Daisy and the other kind — so the players in our boyhood game were of two kinds — a goal-keeper and others. We knew nothing of forwards and coverpoints. The number of players was variable, the "puck" was anything from a tin can to a croquet ball, the object of the game was somehow to make a score, and about the only principle was to shinny on your own side. For this game it will never be necessary to give any rules except this — put from four to thirty boys on the ice with sticks in their hands and leave the rest to instinct.

SCIENTIFIC HOCKEY: THE RINK AND IMPLEMENTS

Ice hockey, the scientific form of shinny, requires more skill and needs more rules. The object is the same, namely, to secure as many goals as possible in a given time; usually the time allotted to a game is forty minutes, with a ten-minute rest after twenty minutes of play. The rink is at least one hundred and twelve feet by fifty-eight feet, usually marked off by a low wooden fence; hockey sticks, made entirely of wood, must not be more than three inches wide at any part, nor more than thirteen inches long at the blade; the puck is a disk of vulcanized rubber, three inches in diameter and one inch thick; the goals are six feet wide and situated at the middle of the goal-lines at each end of the rink.

[Curling, which is shown in our pictures of ice sports, is a variant of bowling rather than of hockey. Although a Scotch game, it has become very popular in Switzerland. It is played with large, smooth stones, with a handle on top. These the players slide at a mark, as shown on pages 209 and 224.]

THE WAY A TEAM IS COMPOSED

A team consists of seven players — goal-keeper, point, coverpoint, and forwards. Their duties and policy are roughly like those of soccer players, described elsewhere in this volume at some length. The goal-keeper must stand through the game, and his position is naturally in front of the goal. To prevent scoring, he may stop the puck with his hands, but must not hold or throw it. The point's position is a position for the secondary defense of the goal, directly in front of the goal-keeper; and the coverpoint, who is for support of both the forwards and of the defense, takes a position directly in front of the point. At the opening of a game, the forwards are lined up, as in soccer, on an imaginary line crossing the rink from side to side, midway between the goals. The game starts when the referee blows his whistle and the two left for-

wards face each other at the center of the rink with the puck between them.

Once the puck is set in motion it may be stopped by any part of the body but not carried or knocked on except with the stick. To carry or knock the puck a player must be "inside," and he is inside when the puck is between him and the opponents' goal at the time it is hit. That is, "a player must always be on his own side of the puck." Occasionally the puck runs off the rink, of course, and then the referee must carry it five yards into the rink at the point where it crossed the line. There it is faced by two opposing players and started as at the opening of a game. For prevention of rough play, two or three foul rules have been made. One says that the stick must not be raised above the shoulder, except in lifting the puck; another forbids charging from behind, tripping, holding, pushing, slashing with the sticks; a third forbids interference with an opponent who is not playing the puck. For willfully breaking these rules, a player may be removed from the game by the referee.

Courtesy of Doubleday, Page & Co.

HOCKEY. TOP: THE PUCK IS MAKING STRAIGHT FOR THE GOAL, HAVING PASSED BOTH POINT AND COVERPOINT. MIDDLE: FROM A LIVELY SCRIMMAGE THE PUCK IS SHOT TOWARD THE GOAL. BOTTOM: THE FORWARDS IN A LIVELY TUSSLE

CURLING ON LAKE SILVAPLANA, ENGADINE, SWITZERLAND

THE APPEAL OF THE GAME

Of course, except for experts who can play on artificial ice at indoor rinks, hockey is a game which depends on the whims of the weather; and it is natural that the colder countries or the colder parts of a single country should develop more proficient players than other sections. Thus, in America, the Canadians, who have a good deal of natural ice to play on through the winter, have developed the game to its highest point, and are probably the best hockey players in the world. But there is good hockey playing in the United States also, and at present, with the number of indoor rinks increasing, the game seems to be becoming more popular. This popularity is not surprising, for few games are more exciting for the spectator. The quick dashes, the sudden stops, the dodging, the dribbling, the passing, the cries of "Shoot!" when there is a chance to make a goal, and, above all the noise and motion, the skirr of the skates on the ice make an exciting game. But many a man as he listens and watches, admiring the skill of the players, and cheering good shots like a "fan" at a baseball game, may find himself thinking, when he goes home, of the Factory Pond and the call of his boyhood: "Shinny on your own side, Bob! Hey, shinny on your own side!" And not infrequently a quick swing of the stick in the direction of the offending shins added point and force to the words.

THE ENTHUSIASTIC CURLER

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AT THE TAKE-OFF — JUST BEFORE THE JUMP

SKIING AND SNOWSHOEING

THIS fascinating sport originated in the deep snows of northern Europe, where it is more than a sport. In the mountainous country of Norway, skiing is a very important means of locomotion. After each toilsome climb comes the swift and exhilarating slide to the foot of the next hill. On the level, also, by a skating motion, the traveler is able to go much more rapidly than by walking. ["Ski" is pronounced *skee*, and "skiing" is *skeeing;* the spelling "skee" is also in use.]

Skiing requires a crust on the snow, such as is common in the late winter in our country, when the sun's warmth melts the snow a little and the cold of the night freezes it into an icy formation. Over this beautiful pavement of white enamel the skier can glide with speed and ease.

The ski is made of any hard wood, about four inches wide and from six to twelve feet long, according to the size and skill of the performer. It is slightly curved upward at the tip. At the middle a strap is mortised through the wood and by this it is loosely fastened over the instep of the foot. The heel is allowed to rest loosely on the ski. The skier is also equipped with a pole which he carries in his hand and by which he balances and guides himself.

The beginner will find these long slats fastened to his feet a great inconvenience in getting about. He will soon wonder where the fun comes in. The ungainly things will begin to turn at all angles, and be always crossing one another and aiming in different directions.

But let him find a short, rather steep little hill covered with a fine icy crust. There let

AT THE PORTAL OF WINTER HOTEL, WHERE SKIING IS POPULAR

him practice sliding down and walking back. He will soon learn that it is possible to keep the impossible things parallel, and that as soon as this is achieved he slips along at a merry pace.

The next step is to learn to walk, or glide, still keeping the skis parallel, and not turning one at an angle for leverage, as in skating. The ski should always point directly forward. On a good surface considerable speed can be attained by gliding along in this fashion.

But the great feat of skiing is jumping. The jump is accomplished by forming a bump on the slope of the hill down which the course is laid. As soon as the skis meet this obstacle, going at speed, they are thrown sharply up and carry themselves and their astonished owner into the air and up and forward for an incredible distance.

Not only does the speed of the motion accomplish this, but also the elasticity of the ski and the impact of its surface on the air as it sails forward. The motion is a combination of being shot from a bow and gliding on an aëroplane. It is not a jump, although it is so called. It is a very thrilling and delightful sensation. The jumper should have a long pole, which he uses as does a tight-rope walker, to keep his balance. He should also take care to keep the tips of his skis pointed sharply upward as he passes through the air. Otherwise he may get a bad fall. One hundred and twenty feet is not an uncommon jump, but the beginner should be satisfied with thirty or forty. He will find excitement enough in sailing through the air for even this limited distance.

One of the interests of skiing as a sport is that it lends itself well to competition. So many skiing clubs have come into being in our own Northern states that a national association has been formed which arranges for tournaments at which records are made for long-distance jumps and other spectacular feats. Although Norwegians had the start, Americans are competing brilliantly for world records.

Courtesy of Doubleday, Page & Co.

SKIING IN CANADA

In learning the art of skiing the beginner selects a gentle slope and a low take-off. This has become one of the popular Canadian sports, and is indulged in with enthusiasm, even by young girls. The insert shows the skis used by the explorer, Captain Scott, and his comrades.

Courtesy of Doubleday, Page & Co.

EACH OF THE SNOWSHOERS TAKES A TURN AT BREAKING THE TRAIL IN CANADA

DELIGHTS OF SNOWSHOEING

The Canadian snowshoe is quite different in pattern and in conception from the ski, although it has the same purpose, that of enabling one to travel on foot over deep snow. The snowshoe is so constructed as to give a wide support to the weight by means of a web of rawhide stretched over a light, oval frame. The contrivance was originated by the Indians and is one of the most ingenious of their inventions. Snowshoes are now on sale in all sporting-goods stores, and may be bought for a moderate sum. An ingenious boy can construct his own, but he must be sure to have good materials, or failure will result. The lacing of the snowshoe should be taut, or it will lack that springiness which is its chief source of power. The frame should be made of ash or hickory, and bent into shape by steaming it. The shape is a long oval, slightly curved upward at the tip. The two ends project about a foot after they meet at the rear. The lacing is similar to that of a cane-seated chair, only somewhat more open. It is done with strips of rawhide. The skin of the caribou is the best for the purpose, for his hide has the quality of not stretching much when wet, and of drying very taut.

The snowshoer learns to walk in a knock-kneed fashion and with his toes turned well out. The motion is at first very tiring to the lower leg, as it brings unused muscles into play. But as soon as the leg becomes hardened to this, it is not at all tiring, and great distances can be traversed. The snow for snowshoeing should not be too light. It should pack well under pressure. It is possible to walk with good snowshoes on the loosest snow, but not on the very surface, nor with speed. The speed of the snowshoe is not equal to that of the ski at its best. The highest speed reached is 12 seconds for 100 yards and 26 seconds for 220 yards. It is therefore not so fast as a good runner can run. But when one considers that it is done on a surface on which running would be practically impossible, it will be seen that the snowshoe is a very efficient mode of progress.

If it were not for this useful device, the Indians must have been driven out from the north country by the deep snows, through which it would be impossible to hunt. But on his snowshoes the Indian hunter is more than a match for any animal that roams the forest. He can easily overtake moose and caribou and deer, hampered by the deep snow into which their sharp hoofs sink, and he has nothing to fear from the savage timber wolf, which is so slow that it cannot overtake him.

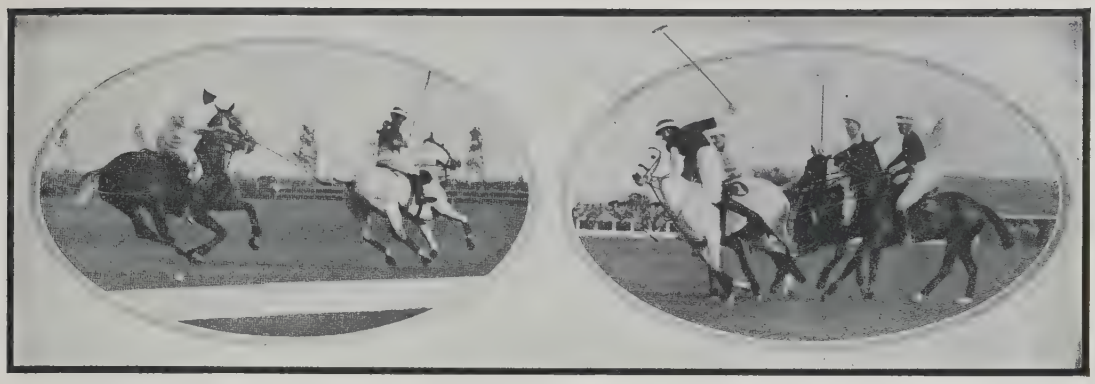
Photos, International, and Madison Association of Commerce

THREE AMERICAN SKI JUMPERS TAKING THEIR LEAPS IN THE AIR

Skiing is becoming a favorite winter sport in our Northern states. One need not go beyond our own borders to see spectacular and record-breaking feats

THE PRESENT EMPEROR OF JAPAN, YOSHIHITO

Like nearly all sovereigns, the Emperor is an accomplished horseman, and looks at his best when mounted and in uniform. He came to the throne upon the death of his father, Emperor Mutsuhito, June 29, 1912.



DRIBBLING THE BALL WHILE GOING AT A FAST GALLOP, AND A GREAT DRIVE

SPORTS OF ALL SORTS

THE HORSEMAN'S DASHING GAME, POLO

POLO is said to be the most ancient of all games of stick and ball. Its origin was in Persia, where it was probably played as early as 600 B.C. Poems in the Persian language celebrating its glories were written many years before the beginning of the Christian era. From Persia it spread to Turkey, to Byzantium, to Turkestan, and then to Tibet and Kashmir. Records show that it flourished in India in the sixteenth century. Then for two hundred years there is no report of it in Indian writings. But in 1854 polo had evidently come into Bengal by way of Cachar, and in 1862 it was played in the Punjab. There it was seen by English officers and other British residents of the district, who took to the game with enthusiasm, made a working set of rules, and systematized the procedure as to penalties, handicaps, etc. These British enthusiasts called the game "hockey on horseback."

In 1870 officers of the Tenth Hussars brought the game to England, where it sprang at once into favor. The organization of polo as a sport in England dates from its adoption by the Hurlingham Club, which established its status and became the governing body for England and the colonies. Six years after the Hussars brought the game to England, it was introduced into the United States by James Gordon Bennett. An American Polo Association was formed under the chairmanship of H. L. Herbert, and the game was fairly launched. Popular interest came slowly, for the game was new and so costly that only a few could play it.

International matches were first played at Newport, R. I., in 1886, in competition for the cup presented by the Westchester Polo Club of that city. England won both matches and from that time, with contests occurring at intervals of several years, England held the cup until 1909. Then came what was known as the "Big Four" in American polo, a combination of four players, H. P. Whitney, as captain, Devereux Milburn, and the two Waterbury brothers, who recaptured the cup for America by a series of brilliant victories. They so impressed the British by their skill that their style of play was adopted to an extent that has greatly modified and improved the game. Americans may well be proud of the contribution made by these men to the sport. The cup was held in the United States for three successive periods, and was won back to England after their three defeats only after the adoption of "Big Four" tactics.

THE ENGLISH GAME

To appreciate just how much America has accomplished in polo during the last fifteen years, it is necessary to know something of the English game. As the English played the game up to the time of the first cup chal-

lenge, the duties of the various players were about as follows: Number 1 watched the opposing back and fed No. 2, always denying himself the chance to play the ball when it was possible to "leave" it for No. 2. Number 2 was usually the best shot on the team, able to shoot accurately from all angles and at all ranges. On him fell the responsibility of scoring. Number 3 held the pivot position, ready for either defense or attack, and usually had the strategy of the game, the plan of campaign, in his control. Number 4 was relied on to protect the goal and never ventured team play and showed us that fast, swinging, galloping game which carried all before it. Was there ever a better example of team play than that of their two forwards, the brothers Waterbury, who have studied the game together for fifteen years? Their long passing was a marvel of accuracy, and to invariably pick up a ball driven to one at right angles at the pace at which they accomplished it is worthy of great mention." This play of these "flying forwards," the Waterburys, changed the policy of No. 1 very decidedly. The play of Milburn at goal with his powerful, long drive

THE AMERICAN TEAM OF 1913, READY TO PLAY THE ENGLISH TEAM
D. Milburn, Harry P. Whitney, J. M. Waterbury, L. Waterbury.

out into the attack. With these divisions of duty the formation of players was usually a "procession" of pairs down the field, and the play consisted of accurate short-passing, riding off, and tight scrimmages.

THE AMERICAN GAME

This game was considerably altered by the Americans. Of the difference in their play, Buckmaster, the greatest English player, said, after the match of 1911: "Their combination differs in its tactics from what we have been accustomed to here. They threw aside close and his daring in making a dash which carries the ball into the enemy's territory, has transformed the goal-policy only a little less. The Americans, with these special characteristics of maneuver, brought to perfection by the "Big Four," play a wide-open, dashing game, with long passes and a broad, sweeping line, rarely falling into the older procession formation.

Boldness and intelligence are required of a polo player, as well as strength and skill. His pony also must display the same qualities. It is only the unusual animal that will not flinch when mallets are swinging all around him and other horses bearing down on him

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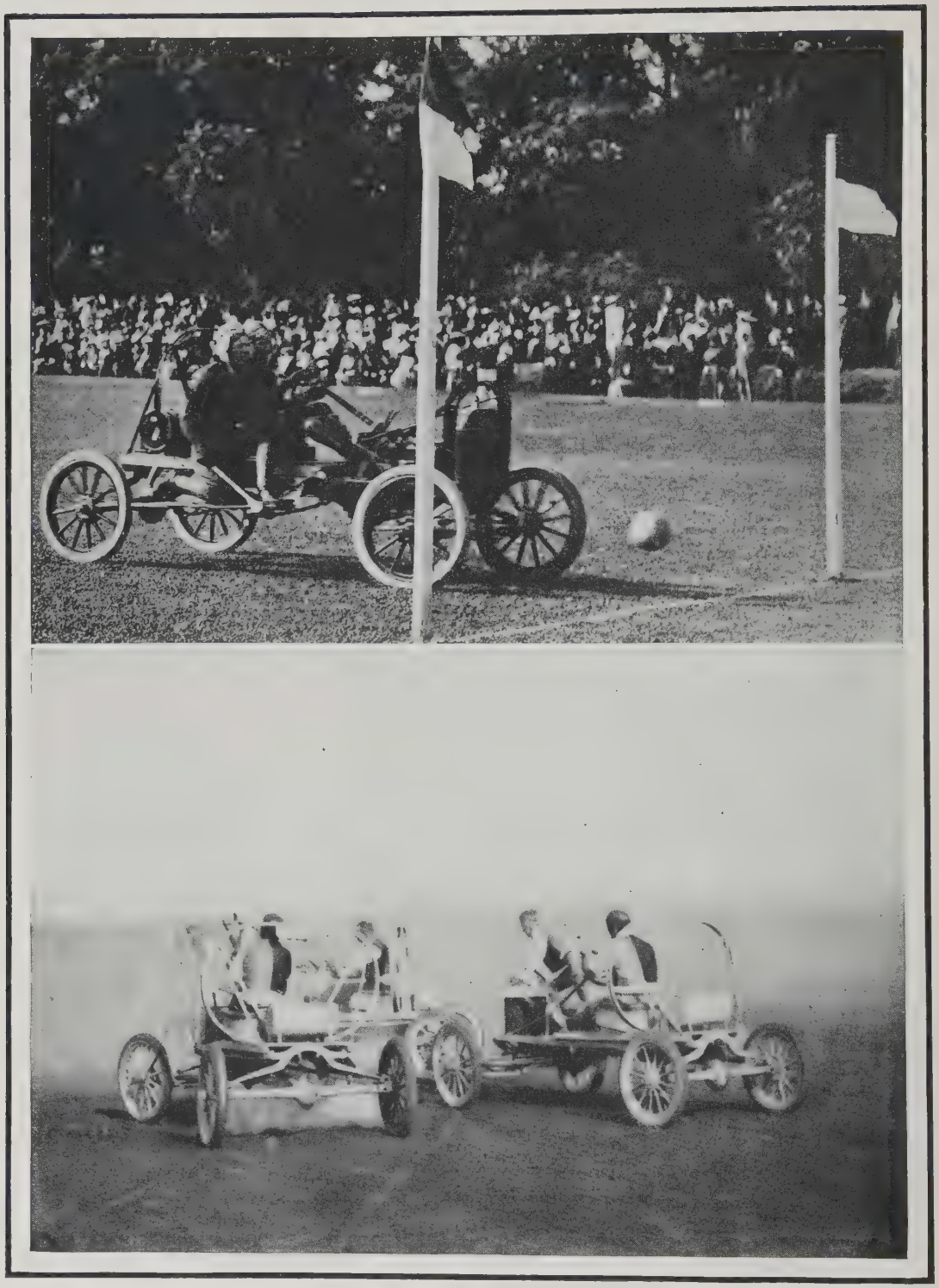
A PERILOUS MOMENT FOR A BOLD RIDER

If the horse has gone beyond the balancing point, only a quick leap from the saddle can save the rider.



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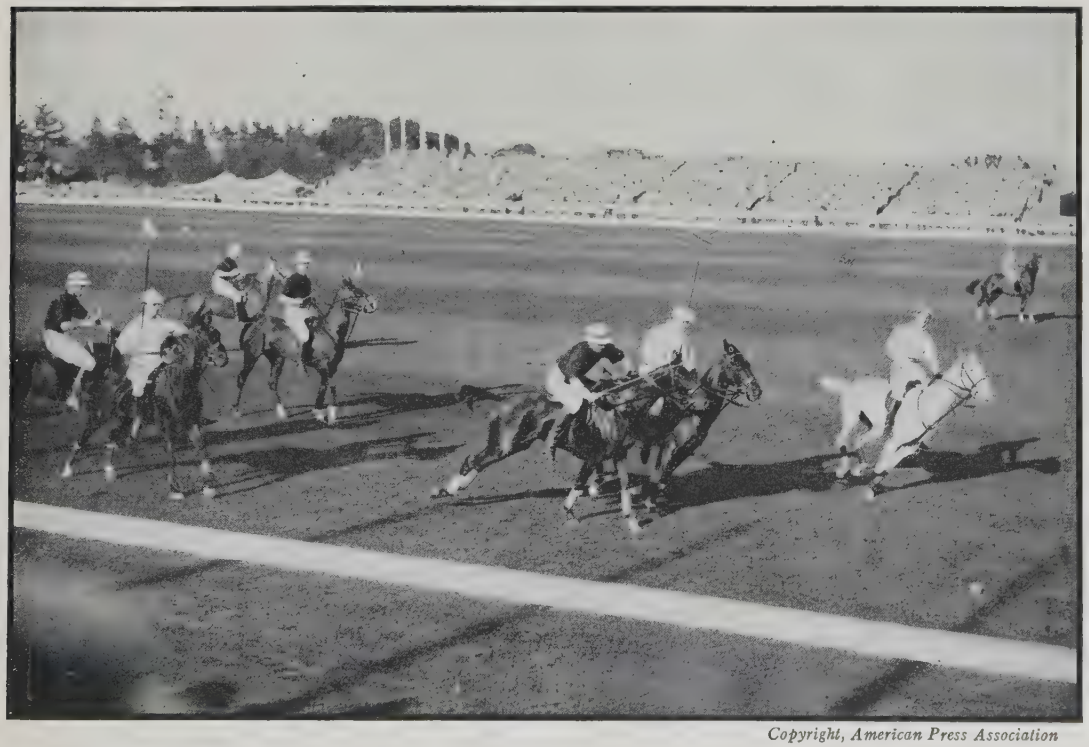
AUTO POLO: An exciting freak sport. Now that we have gone through all the stages of horse, bicycle, and auto polo, what remains but to invent a game for aëroplanes?

at full speed. Before the war it was said that the Americans were likely to be less skilled horsemen than the English and that their ponies were less well-trained. England suffered so heavily in the loss of men and also of these specially trained ponies during the war that no championship matches were attempted till 1921, when the United States regained the cup. It was noted at that time that both sides had discarded the close combination and the short pass for the swifter game of the American "Big Four" of ten years earlier. Even the rulings have been changed. Where formerly there were four fifteen-minute periods of play, with seven-minute rests between, now the periods are only half as long and the intervals correspondingly shortened. The result has been a game with keener competition for the players and greater interest for those who look on.

Of course, the ponies get a good deal of attention in polo, both from the players and from the spectators. The British have taken up breeding and training polo-ponies on a big scale. The Duke of Westminster, for example, one of the patrons of the game in England, sent over for the Meadow Brook play in June, 1913, a string of seventeen ponies, representing a small fortune in themselves. But some of the best ponies in England have been bought by Americans, and California and Hawaii are also raising excellent ponies and sending some fast, weight-carrying mounts to the Eastern clubs. Of the forty-two ponies brought over to America by the English team in the recent match, fifteen were sold to Americans after the contest. Whether we shall equal the English at riding is doubtful, for they often play polo just for the sake of practice in riding, both at the clubs and in the army. We play rather for the zest of the game.

THE STROKES

The necessity of hitting the ball while galloping, and even of hitting the ball in the air,



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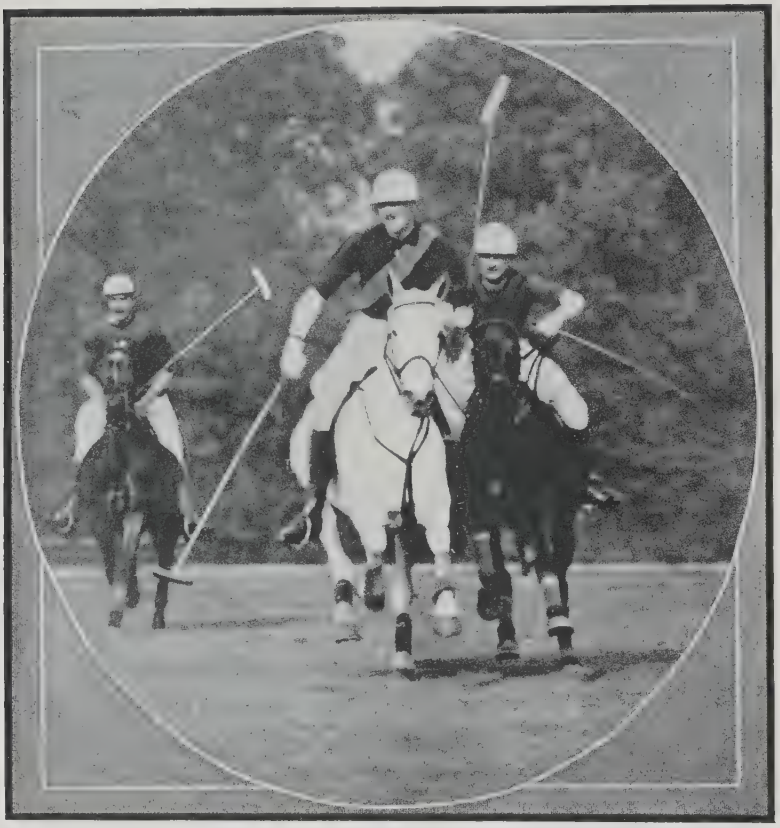
A MOMENT OF UNCERTAINTY: WHO GETS THE BALL? NOTE THE POWER AND KEENNESS OF THE HANDSOME PONIES

makes it difficult for players to develop accuracy; but many of them have done so. They can hit the ball on either the near or the off side, under the pony's tail or neck, and play either a forehand or backhand stroke. The backhand stroke, which was a feature of polo developed by Mr. John Watson, famous in English play, is best played to-day by Devereux Milburn of the Meadow Brook, who can send a ball far and true off his backhand. In the matches of 1911, Captain Edwards of the English team made himself much feared by his use of a deceptive curving ball which he had learned in India. This he used effectively in shooting for goal. But this stroke has not been used much in polo outside of India. And, anyhow, except for the expert the stroking is a hard thing to observe and understand while the game is being played.



HERE YOU SEE RIVAL PONIES TRYING TO RIDE EACH OTHER OFF, AS THE ARTICLE EXPLAINS

"RIDING OFF"

"Riding off," however, is a pretty piece of horsemanship which everyone sees and thrills at. Ponies are trained carefully to follow the ball, not to flinch at the swinging sticks, to respond properly to the slightest touch of knee or rein, to stop dead, to whirl on the span of a hat-brim, and, most thrilling of all, to sidle toward other ponies and thrust them away from the ball. This is called "riding off."

THE PONY AGAIN

In fact, a great deal of the interest in polo centers in the pony. Kipling's story, "The Maltese Cat," will be remembered in this connection for its praise of the intelligence of the pony, originally a cart-horse, who brought victory to the Skidars and saved his master's life at the cost of laming himself. "Now a polo-pony," says the story, "is like a poet. If he is born with a love for the game, he can be made. The Maltese Cat knew that bamboos grew solely in order that polo-balls might be turned from their roots, that grain was given to ponies to keep them in hard condition, and that ponies were shod to prevent them slipping on a turn. But, besides all these things, he knew every trick and device of the finest game in the world, and for two seasons had been teaching the others all he knew or guessed." It was for these qualities that when the Maltese Cat stuck his wise little gray head through the door of the mess-room, after the game was over and the celebrating banquet was on, all the banqueters agreed that he was Past Plu-

perfect Prestissimo player of the game. Such praise has come to actual ponies, too. Read the fine pages of Moray Brown, for example, of famous players and their mounts, of Cinderella who lost an eye by a slip of the knife in cutting a lemon, but lived to play the game for several years, of Dandy Jim who pulled his own pelvis bone in two during a match and had to be killed on the Hurlingham grounds, or of many another trim piece of horse-flesh who played by instinct for all he was worth.

LAST WORDS

In fact, those who have the interest for play and who like horses and dogs, will always warm to polo. The old hunter with his falcon, the modern hunter with his hounds or his setters, have thrills which are missed by those who get recreation without contact with well-blooded, well-trained, devoted animals. Let the ponies have their share of praise as we watch them! What decades of careful breeding and years of careful training lie behind those galloping ponies, scurrying down the field! Of one thing every spectator is confident, that the ponies thoroughly enjoy the sport. What steady nerves and supple muscles and cool heads their masters have too! Down they come! Back they go! The ball is blocked! Now they are at the boundaries! There they center! It is like the centaurs at play!

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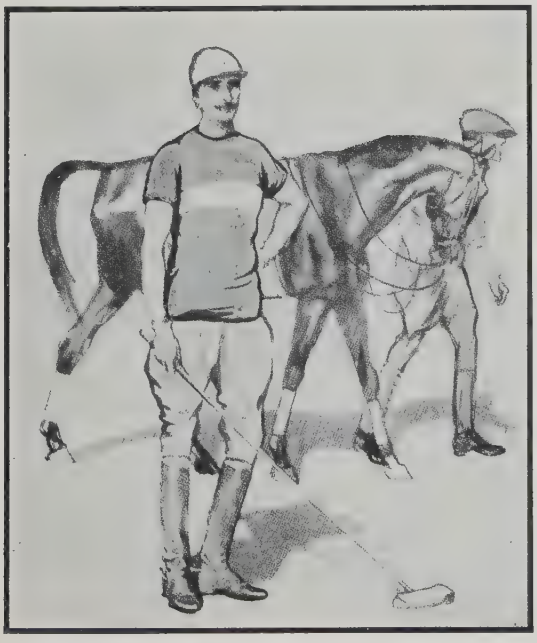
CLEANING A PONY

The polo ponies receive far better care than the average human being.



A TYPICAL POLO-PLAYER

And his thoroughly trained pony, on whom so much of the success of the game depends.

Polo mallets are about four feet long, made of light wood. The grounds are usually 900 feet long by 450 feet wide, a level turf, at each end of which are located goal-posts 24 feet apart. Because of its hazardous nature the game will always attract the venturesome and daring spirits. The United States Army has encouraged its playing at army posts because in addition to superb horsemanship the game requires control of temper, quickness of observation, judgment, nerve, and endurance. It is played at West Point, but the private clubs do the main part in keeping the sport alive. Few games are more exciting to witness.

CRICKET, THE NATIONAL GAME OF ENGLAND

At the top, two rival school teams — Harrow and Eton. The second row shows the position of the players in the field; the bowler has just delivered the ball. The four position plays below show: (1) the perfect on-drive; (2) a twisted ball that fooled the batsman; (3) the wicket-keeper taking a hot ball off the bat; (4) a failure to stop the ball, sending the "leg stump" whirling.

CRICKET

CRICKET is the national game of England, as baseball is of the United States. It differs from baseball in the greater deliberation of the play and the patience and perseverance required to work out a victory. Two days are often occupied in playing a single game. There is far less opportunity for team play than in baseball, and the game is less stirring and brilliant. On the other hand, there is far less of chance and accident in the game than in baseball, and the most skillful players are more certain to win. The player is not required to exercise so much judgment and quickness of thought as in baseball, but he may develop a higher refinement of skill. A sure eye and a steady nerve are needed to play a good game of cricket. The battle between the bowler and the batter may be of much longer duration than in baseball, and often becomes a struggle of will against will, quite as much as of skill against skill. A very noticeable difference between cricket and baseball is in the age of the best players. Gentlemen in England play cricket to quite an advanced age, but baseball is almost entirely a youth's game. Both games will always have their strong advocates, but it seems probable that each is best suited to the mental habits of the country in which it is most popular.

Cricket may be enjoyed on almost any piece of open ground, with very little needed for implements or for marking the field. For fine playing, however, a very smooth and level piece of turf is required. It must be about two acres in extent. Many of the cricket fields of England are beautifully kept, the sod being of the finest and most even texture, closely clipped. It is even swept and rolled between innings, so that it is almost as true as a billiard table. On such a field and with expert players there is little left to chance. The game is a trial of nerve and skill, patience and pluck. American boys would do well to learn the game as an alternate to their own favorite and for the skill which it develops.

CAPTAIN OF AN ETON CRICKET TEAM

There are two games, single wicket and double wicket, but as single wicket is seldom played we need not notice the game here. Double wicket is played by two teams of eleven players each. Of course, practice games may be played with fewer players. Two bats, a ball, and two "wickets" are required to play the game. The ball is similar to a baseball in size and weight. The bats are wide and have flatter surfaces than a baseball bat. It is against the rules to use a bat more than four inches wide or more than thirty-eight inches long. The wicket consists of three posts which are to be set in the ground so as to stand twenty-seven inches high. The two outside

posts are eight inches apart, and the third post is placed midway between them. The posts should be of such thickness as to prevent the ball passing between them when so placed. Across the top of the posts a stick eight inches long, called a "bail," is placed. Two wickets are used, and they are set up twenty-two yards apart.

On the line of each wicket and extending three feet four inches each side of it, a mark is made in the ground, called the "bowler's crease." From the ends of this line two lines are drawn backward at right angles to it, and within this bound the bowler must stand. It is the same as the pitcher's "box" in baseball.

Another mark, called the "popping crease," is drawn four feet in front of each wicket and parallel to it. This line marks the batter's position. Everything being in readiness, the game proceeds as follows:

HOW THE GAME IS PLAYED

The rival sides toss for first innings, and the captain of the side that is to go in first places two of his men at the wickets as batters. The captain of the opposite side places a bowler, wicket-keeper, and various fielders in their proper positions, which may be seen by reference to the diagram. The game is decided by the number of runs made by the eleven players of each side in two innings, unless, by agreement, the game is to be shortened.

At a signal from the umpire, the bowler cries "Play," and immediately delivers his first ball. It is his object to knock down the stumps or knock off the bail from the opposite wicket, where a batsman stands to guard the wicket by striking the ball with his bat. The batter is called "out" under a variety of circumstances: if the wicket is knocked down by the ball, either from the bowler, or when fielded to the wicket while the batter is running; if the ball is hit and then caught before touching the ground; if the batter places his leg before the wicket and thereby prevents the ball from knocking it down; if he knocks down his own wicket; if he handles the ball; and in certain other rare cases. The batsman scores a run by changing places with the other batsman, who stands at the opposite wicket. While they are doing this their wickets are unguarded until they reach the popping crease (see diagram), and if the wicket is knocked down by the ball, in accordance with the rule just above, the batsman is out. Hence it follows that there may be many hits made without scoring runs, as quick fielding makes the risk too great and the batsman is not compelled to run upon hitting the ball. A glance at the diagram will show that no matter in what direction the ball may be hit, there is a player covering the ground. It requires no little skill to place the ball out of reach. However, if the ball is hit to the boundary of the inclosure (as when a ball is hit into the bleachers in baseball), four or six runs are given, as specified by the ground rules.

When four balls have been bowled at one wicket, the players change their positions and four more are bowled at the other wicket; each of these periods constitutes an "over." There are two bowlers, who usually take turns, playing in the infield when not bowling. No bowler is allowed to bowl more than two overs in succession. Should he bowl a ball so "wide" that the batsman is unable to reach it, a run is scored.

Two umpires are required to determine outs, runs, etc.; one of these gives decisions on bowling, the other on fielding.

As each batsman remains in until he has been put out by one of the rules given above, and as there are eleven men to bat, it stands to reason that several hundred runs may be scored and at least two days consumed in playing the match, as each side comes to bat twice.

WICKET-KEEPER, BOWLER, AND BATTER — IMPORTANT MEN

The wicket-keeper's place is a very important one. It corresponds to that of catcher in baseball. If he should miss stopping a ball that passes the batsman, a run might follow. Behind him stands the longstop to help prevent such a catastrophe. Accuracy and speed in throwing are required of the fielders as well as skill in catching flies and stopping grounders. The ball is usually thrown in to the wicket-keeper from the fielder.

Bowling, as distinct from throwing, requires some description. Formerly only underhand bowling was allowed. Now what are called straight-arm and round-arm bowling are also allowable, and add much to the bowler's power. Bowling is delivering the ball by a motion from the shoulder only. The muscles of the fingers and wrists may be so used as to impart twists, as in pitching in baseball, but nothing like a jerk, or snap, as in throwing, is allowable. The bowler must keep one foot behind the bowler's crease. In good bowling the ball strikes the ground as near as possible to the batter's crease and takes the wicket on the bound. If sufficient twist has been imparted, the bound will break sharply and make the ball more difficult to stop. If too long a bound is allowed, the batter has too much time in which to place the ball. The difference between throwing and bowling is difficult to define, but few observers can fail to notice when a bowler throws a ball illegally. The greatest difficulty which young bowlers experience is to bowl far enough. It may be well at first to practice at shorter distances than twenty-two yards. Many of the best bowlers use a very slow ball, and with sufficient twist such a ball is extremely deceptive, as its speed is usually increased on the bound. Accuracy in bowling is necessary, as the wicket is only eight inches wide and the distance of sixty-six feet makes it rather a small target.

Cricket holds a large place in the affection of British sportsmen of all sorts and ages. It never draws such great crowds of enthusiasts as baseball calls out in this country; but it does attract goodly companies of spectators, particularly when the match is between great school or college rivals like Eton and Harrow, or Oxford and Cambridge. And in England everybody plays cricket. A familiar sight there on Saturdays and holidays is to see group after group of boys or men set up their wickets in parks and meadows and without further trouble begin their day of healthy fun.

The next time you and a dozen or more of your chums want a good afternoon of novel sport, make wickets of lathing, hew two bats out of old boards, get a baseball, and go straight at it. If you are not able to make your own "ground rules" and agree upon them without more than a normal amount of disputation — why, you are not the American lads I take you for.

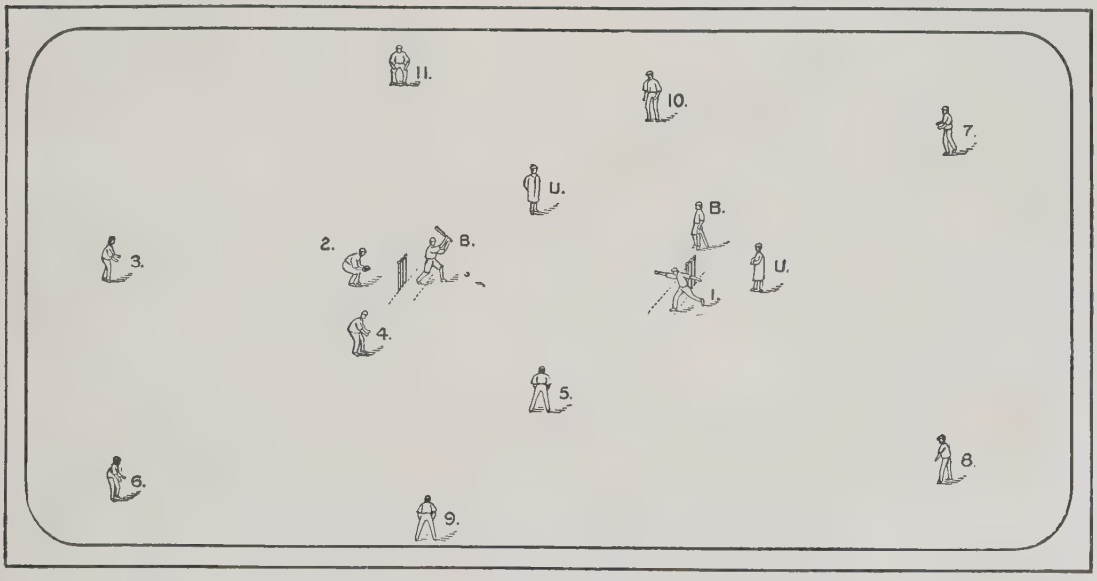


DIAGRAM OF THE CUSTOMARY FIELDING POSITIONS IN CRICKET

B, Batsmen; U, Umpires; 1, Bowler; 2, Wicket-keeper; 3, Long-stop; 4, Short slip; 5, Point; 6, Long slip; 7, Long on; 8, Long off; 9, Cover-point; 10, Mid-wicket on; 11, Leg.

AN AMATEUR GOLF CHAMPION

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GOLF, THE ROYAL AND ANCIENT GAME

ROYAL in a larger and better sense than that it has been the pastime of kings is this game that brings to many the health and healing of outdoor life. It is a game particularly fitted for our modern world, which needs just the kind of relaxation and mild but healthful exercise it affords. Golf must be played in a wide, open space, where the air is of necessity fresh and pure. It calls for vigorous walking, and that not over a hard pavement or a dusty thoroughfare, but over cool, springy turf. To this exercise it adds the incentive of an interesting competition and the fascination of an opportunity for the development of great skill. Mind and body share in the game, and the freedom from other thoughts, with resulting mental relaxation, is one of its greatest charms for men of affairs. Its popularity is so largely on the increase that it is not unreasonable to look forward to the day when public golf courses will be a part of every city's park system. Golf may be enjoyed in rural communities as well. Some of the finest courses have had no artificial improvement beyond mowing and leveling the greens.

LAYING OUT THE COURSE

Golf may be played on any stretch of open country that is not covered with high grass or weeds. The ground best suited for the game is a rolling upland covered with low grass and with a fair supply of irregularities, "hazards," as they are called. Where these do not exist naturally, they are artificially constructed on regular golf courses. These artificial obstacles are called "bunkers." A course, or "the links," consists of a series of small holes (correctly four inches in diameter), cleanly cut in the turf at distances varying from one hundred to six hundred yards from hole to hole. These holes are marked by flags, and about them, for a space of from forty to a hundred feet square, the ground is leveled and, if possible, covered with a fine even turf. Near each hole, or green (according to the rules not nearer than eight nor more than twelve club lengths), a bit of bare ground is prepared from which to "drive," or make the first stroke. This is known as the "teeing ground." A course includes nine holes (a half course), or eighteen

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A TYPICAL GOLF COURSE

In the foreground is the putting green; in the middle a teeing ground; while in the distance are a number of bunkers.

holes (a full course). On nine-hole courses a match is played by going over the course twice.

In laying out a golf course there is an opportunity for the exercise of much judgment and knowledge of the game, and it is better, wherever possible, to have this done by an expert. When a professional player is not available, a course may be very well planned if those in charge bear in mind that the aim must be to secure the greatest variety of conditions possible to the location. There should be long, fair stretches to invite long drives, and short, difficult ones that call for accurate shots over cunningly placed hazards, to test the golfer's nerve and judgment. The holes should be so placed as to be visible from the preceding tee, or, if what is termed a "blind hole" is made, it should be marked by a direction flag at some convenient point.

EQUIPMENT FOR THE GAME

Golf is played with a small gutta-percha, or gutta-percha and rubber, ball, about one and three-quarter ounces in weight. This ball is painted white, so that it may be readily seen, and its surface is marked with crosscuts to prevent the possible slipping of the club in a stroke. Balls are made in great variety, and the golfer soon acquires a favorite. While but one ball for each player is in use in the game, the golfer should be supplied with several, because of the liability to loss in the course of the game. In addition to the balls, each player supplies himself with a set of clubs. In the number and style of these he may suit his fancy. It is not practicable to play the game with less than three; most players carry six, and an expert's full complement need not consist of more than ten, although some

nineteen different clubs are made. The golfer will probably supply himself with a bag in which these clubs may be carried either by himself or by a boy, called a "caddie," whose further duty it is to watch the ball of the player as it alights, so that it may be easily found.

The most necessary clubs are a "driver" (for this a "brassie" may be used, thus saving one club), a "mid-iron," and a "putter."

The driver is a club with a wooden head, and is used for the first long, swinging shot from the teeing ground. It cannot be successfully used, without liability to injury, except when the ball is raised from the ground, or "teed," on a little pile of sand. This is only allowed on the first stroke from the teeing ground. In all other positions the ball must be struck from its "lie," unless the player is willing to lose a stroke by tossing the ball over his shoulder in the direction of the tee that he has just left. A "mid-iron" is a club with an iron head, with its face at a slight angle that tends to raise the ball into the air somewhat when struck. The "putter" is a club with a short handle and square-faced head of wood, iron, or brass. It is used to send the ball into the hole when it is once fairly on the green.

Having supplied himself with these three necessary clubs, the player's first addition to his stock will probably be a brassie (unless he uses a brassie for a driver, the disadvantage of which is that it cuts up the balls). The brassie is like a driver with the addition of a brass facing to the bottom of the head. This protects the club from injury when used on unteed balls on rough ground. A ball may be sent much farther with a brassie than with any form of iron. The next most advantageous club is that called a "mashie." This is an iron club with a higher angle to its face than a mid-iron. It is used to lift the ball well over difficulties.

Now come a series of clubs made to fit the various predicaments in which the golfer may be placed by some unfortunate "lie" of his ball. Each has its special name, as "brassie-spooner," "cleek," "niblick," etc. In the

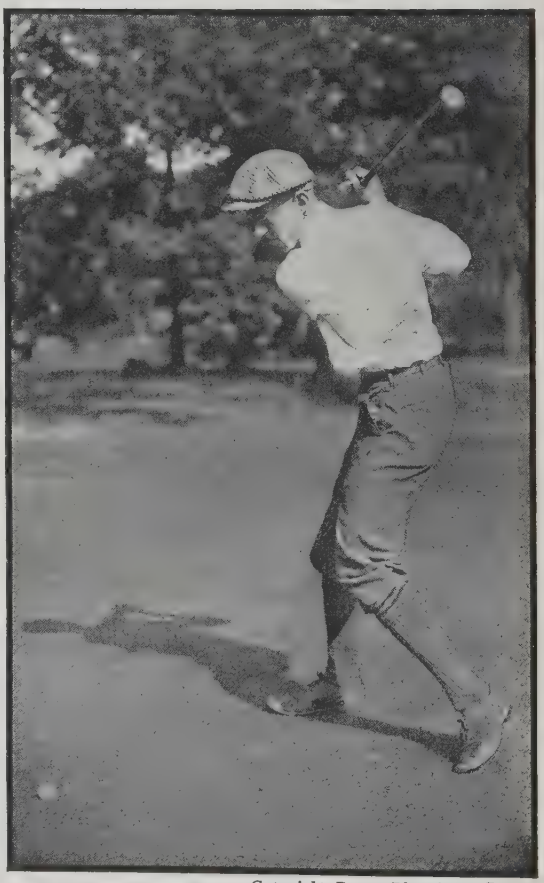
GETTING OUT OF A SAND TRAP

MAKING READY FOR A BRASSIE SHOT

hands of an expert each has its special use. In selecting from these the golfer may suit his fancy, or be governed by the special difficulties of the course over which he habitually plays. In selecting clubs care should be taken that the length of the handle is suited to the height of the player. This is particularly important with the driver and brassie. Too long a driver is sure to result in a bad swing, and too short a one in a weak swing. The wearing of bright clothing in playing the game is less common than formerly. Its purpose is to prevent accidents by making each player clearly visible to his fellows.

THE GAME AND ITS SCORE

Golf is the most simple of all games to understand, and one of the most difficult in which to excel. The point of the game is merely to drive your ball about the course in a less number of strokes than your opponent. The game, when played by two persons, is called a "twosome"; when played by four, a "foursome." Scoring is done by two methods, "match play" and "medal play." In match play the score is kept by holes won. In medal play the score is by strokes for the entire course. The only difficulty in keeping these scores arises from the oddity of the old Scotch terms that are used. "All-square" means that the score stands as at the beginning, with no advantage to either player. The "odd" is a stroke more on a hole. When a player is a hole ahead of his opponent, he is said to be "one up"; if two holes, "two up," etc. A hole is "halved" when the players make it in the same number of strokes. "Like as we lie" means that the same number



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BEGINNING OF THE DRIVE

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TOP: LINING UP FOR A PUT; FINISH OF A CORRECT PUTTING STROKE. BOTTOM: MEASURING FOR A PUT; MAKING THE HOLE

of strokes had been used by each player to place the ball where it stands. The more complicated terms of scoring are little used in American golf, where the custom of keeping a written score renders them unnecessary.

The "honor" is the privilege of driving first. This belongs to the player who has won the last hole, and he is not at liberty to disclaim it.

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A GOLFER IN THE MAKING

At the beginning of a game, the honor belongs to the player who won the last game, or, if they have not played before, is determined by lot. The "bogie" is the number of strokes which an average good player requires for a hole. The bogie is established for the separate holes of each course according to the skill of the players who habitually use it. Naturally, every player is keen to beat the bogie. When a player goes over a course alone, it is either for a medal play score, or to win from the bogie.

A "dormie" is said of a player who is as many holes ahead of his opponent as there are holes left to play. When he is more holes ahead than there are left to play, he is commonly said, in America, to be "dormie one," "dormie two," etc. In England and Scotland, under these conditions he is said to be "bye" that number. The word "bye" is also used, as in other sports, for a player who has drawn a blank in the first round of a tournament.

A "stymie" is "laid" when one player secures a lie for his ball between his opponent's ball and the hole, when it is his opponent's stroke. A stymie may not be laid within six inches of a hole.

To "put" (pronounced like *cut*) is to make a short stroke on the green to put the ball in the hole. "Fore" is the cry of warning given by a player before making a stroke.

There are many other terms that have grown up in the long and interesting history of the game. These the player will hear from time to time and become accustomed to. The beginner should remember that "learning the lingo" is not playing golf.

A FEW HINTS TO BEGINNERS

It would be useless to attempt to give advice of value to experienced players in an article of this nature, but something may be said that should help the beginner. In the first place it is all important that he should learn to drive. The correct position can best be mastered by studying the pictures of good players in action, or, better still, by watching one at play. The elements of the drive are the grip, the position, the swing, and the carry-through. The grip should be firm, and yet not too rigid. The club should not yield in the hands when it strikes the ball, and yet there should be sufficient flexibility to the wrists for them to share in the action of the carry-through. What is known as the "overhand grip" is that used by the best players. The position should be firm and true. The direction taken by the ball is largely determined by the angle of the feet in relation to the line of the stroke. Stand with the feet easily apart and so that the club will swing directly in the line of play, and be perpendicular to it at the point of contact with the ball.

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TOP: FINISH OF A MID-IRON STROKE; FINISH OF THE DRIVE. NOTE THE PLAYER'S EYE STILL FIXED ON THE TEE.
BOTTOM: PLAYING A BALL OUT OF A BUNKER

The distance from the ball is determined somewhat by the player's build. But it should not be so far as to give a round swing to the club, nor so near as to crowd the swing. It is usual to take a few easy, free practice swings before making the drive, to make sure that the feet are well placed and that the body is free from tension. For the swing the club is thrown well back over and behind the head, and brought down with evenly increasing velocity, until it strikes the ball. Now comes a very important part of the stroke, the follow-through. Carry the club-head well forward with the ball and in the direction in which it is desired that it should go. This is a difficult point to master, as it is natural to draw the club in, which results in "pulling" the ball out of its course. The slightest movement from a true line is enough to cause the ball to swerve, and the slightest turn of the club while the face is in contact with the ball will cause it to curve in the air. Skillful players, of course, can utilize this tendency to counteract cross-winds, but the beginner will need to wait for such refinements. He will have his hands quite full to master a straight drive.

On his first few attempts, the beginner will probably discover that it is not at all simple even to hit the ball squarely. This all-important point is made by keeping the eye on the ball while the stroke is being made. Resist absolutely the tendency to look up to see where it is going. Do not even follow the follow-through with your eyes, but keep them fixed on the point where the ball was teed.

A good drive should net you from one hundred to two hundred yards. The greatest distance attained by a few cracks is something more than three hundred yards. This drive, if well given, should land your ball free from all bunkers and other hazards and well on the direct course to the next hole. If the hole is a short one, it may even place your ball on the green. Making the hole with the drive must be regarded as an accidental stroke, as no skill could be equal to its regular accomplishment.

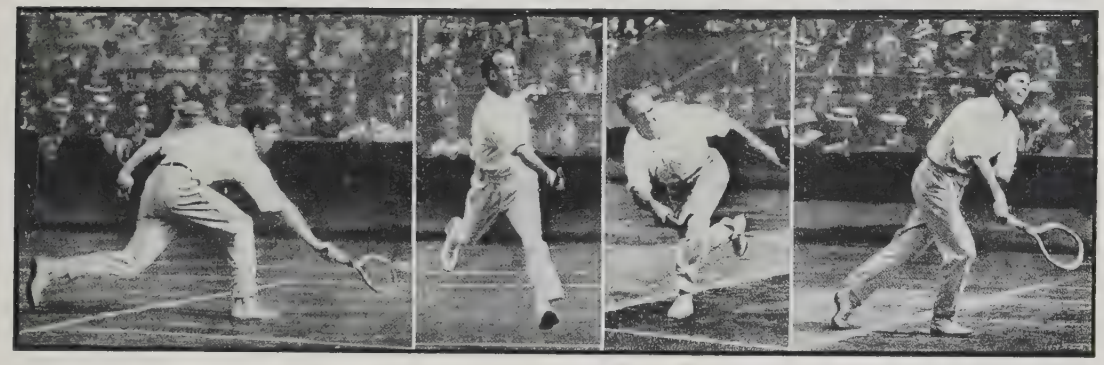
If the distance to the hole is three to five hundred yards, you will now find it necessary to make one or two more long drives before you can get on to the green. These drives must be made as the ball lies, and cannot be made from a tee. If the ball lies fairly, you can drive farther with your brassie than with any other club. There will be room for the exercise of judgment, however, as there may be many hazards to avoid. The point is to get to that hole in the fewest possible strokes, and that may not be accomplished by the longest stroke that you can make. Such a stroke may land you in a bunker from which it will require many strokes to extricate yourself. If the ball does not lie well for a drive with the brassie, or you desire for good reason a shorter stroke, and yet good distance, you will probably use your brassie-spooner or, if you are sufficiently skillful in its use, a cleek, which is your iron with the least angle.

When nearing the green you will desire to drop your ball on it in such a way that it will be near the hole, and will not roll away. To accomplish this "approach," as it is called, you will naturally use an iron with a sharper angle, a mid-iron or a mashie. On the green you use your putter. The putting stroke is a movement kept level with the ground, so as to give no lift to the ball.

The beginner should remember that while playing is practice, it is not the best practice. Practice consists in doing the same thing over and over until you master it. It is well to practice as well as to play, and if there were more practice there would be more good golf. Practice the drive and putting. These are the two difficult accomplishments. You may lose all the advantage of a well-played hole by bad putting, or hopelessly handicap yourself at the outset by a bad drive. The approach is a matter of judgment and the use of irons.

Do not be discouraged by the slowness of your progress. Your muscles have much to learn. Your eye also needs training, and your entire nervous system must be adjusted to movements that are unfamiliar. This comes only from long habit.

To boys, golf may seem an unexciting sport. As a matter of fact, few games are more fascinating. And the boy who learns to golf lays up for himself a source of pleasure that will last through his life. The game is one that can be played with skill by men of advanced years. It is also a game in which women may participate, and it should be learned by our girls as well as by the boys.



LAWN TENNIS

THIS is a modern adaptation of the ancient game of royal or court tennis, which dates back to the twelfth century. Lawn tennis, although it only took its place as a game in 1875, is already an international sport, and played according to the same rules everywhere. It is especially popular in England and America and is played by both sexes. Tennis clubs and associations are found in all parts of the United States. The United States National Lawn Tennis Association was formed in 1881, and the national championship matches have been played under its direction from that year; while sectional and local matches are also annual events.

The game is played by two, three, or four persons, each of whom needs a racket (which is a bat of bent wood strung with gut) and balls. Although only one ball is necessary, two or three are used for convenience. The ground, or court, is a level spot, either of sod, bare clay, or concrete, marked into sections (see diagram on p. 255), and divided by a net into two equal parts. Rubber-soled shoes are used by the players, both to avoid slipping and to protect the surface of the court, which must be as even as possible, if the play is to be satisfactory.

Light clothing that does not impede the body should be worn. Washable flannels are correct in style and unexcelled in convenience and economy.

Although the fittings for the game are simple, it is best to buy them of a good maker. Good play requires good tools.

As to the relative desirability of grass, clay, or hard courts, opinion favors the clay, or clay and sand court, although many of the greatest championship games are played on a grass court. Concrete courts are very tiring to the feet. Probably the clay court, without sand, is the best of all for play, but the most difficult of all to keep in condition, as it becomes very muddy after rains and very dusty in droughts.

As one may be called upon to play a match game on any kind of court, it is well to seek an opportunity to become familiar with the peculiarity of each. In general it may be said that the ball "clings" to a grass court, rising a trifle more slowly, less high, and with less speed and distance. It is necessary to play closer to the ball in playing on such a court, and to strike more quickly. It is almost impossible to make the play as severe as on a hard court.

WHAT THE GAME IS

The idea of the game is to bat the ball back and forth over the net either upon the bound or before it strikes the ground, and in such a manner that it falls within the boundaries, or would so fall if allowed to strike the ground. The player who fails to accomplish a correct return receives an adverse score. When ready to start a game, the first move is the choice of courts. This is done by one of the players tossing up a racket while his opponent calls "Rough" or "Smooth," as you would call head or tail with a coin, the winner picking the court which he prefers. The "rough" side of

a racket is that on which the small strings at the very head are twisted so as to appear rough.

The player having first service takes his position behind the base line of the right-hand court, at any point he chooses to the right of the center line. When ready, he calls "Play." He delivers the service from the right- and left-hand courts alternately, beginning in each of his service games from the right-hand court. Both of his feet must be back of the base line when serving, and the ball must drop in the opponent's service court diagonally opposite to the court served from, or upon one of the lines enclosing that court. To do this he has two trials. A failure is called a "fault." Two consecutive faults (a double fault) scores a point for his opponent. The server then moves to the left of the center line for a new service from the left-hand court. He retains the service until the game is won, when the service passes to his opponent for the next game. In serving, the ball must pass over the net without touching it; if it touches the net but falls within the service court it is called a "let," and the server tries again. A let does not affect the score, no matter how many times repeated. The serve is a fault if it is not delivered from the proper court and from behind the base line, if the ball drops into the net or out of court, or into any part of the court other than the proper service court. The server does not change courts after a single fault or a let, but keeps on until the point is lost or won.

In receiving the ball the player may legally stand wherever he chooses, but he should choose a spot from which he can guard his entire court

TENNIS ENTHUSIASTS AT A CHAMPIONSHIP MATCH OF SINGLES

to the best advantage. He may not return a served ball until it touches the ground. The bounds into which the ball must be returned are the whole territory of the opponent's side of the net. In singles, the lines of the single court form the boundary of play on the return.

In returning the ball the player uses various methods according to his position in the court and the position and force of the ball when received. When possible he uses the *forehand stroke*, which is made from the side on which is the arm wielding the racket. Very frequently, however, the ball must be struck from the opposite side, when a *backhand stroke* must be used. A vigorous stroke that returns the ball more or less horizontally when it has traveled a considerable distance from the bouncing point, is called a *drive;* while any stroke that hits the ball before it has touched the ground is termed a *volley*. Sometimes an effective stroke can be made by sending the ball into the air over an opponent's head. This is called a *lob*. When a lob falls near enough to the net, it can be struck a swift, strong blow on its descent before it touches the ground. This is a *smash,* and if the ball is strategically placed, it is pretty sure to score.

HOW TO SCORE

The score in tennis follows a curious custom and must be learned outright. There is no reason for it. The first point scores fifteen, the second fifteen, the third ten, and the fourth wins the game, unless the score shall have reached forty for each side. In such a case it

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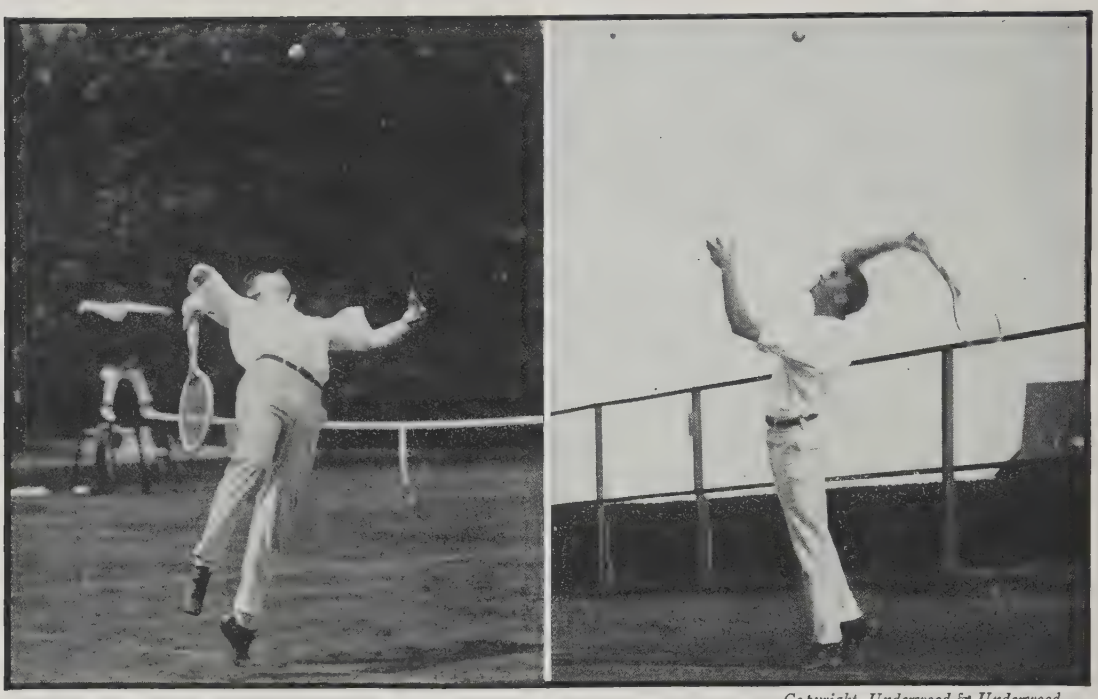
THE GAME IN PROGRESS, THE NEARER PLAYER VOLLEYING THE BALL AT THE NET



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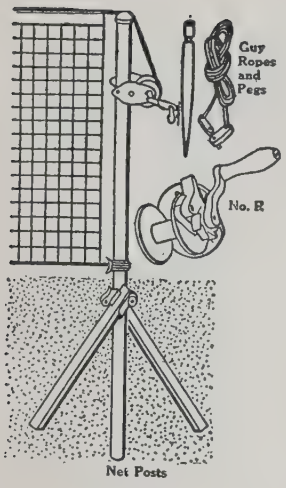
THE AMERICAN OVERHAND SERVICE — EXTREME STYLE AND MODERATE STYLE

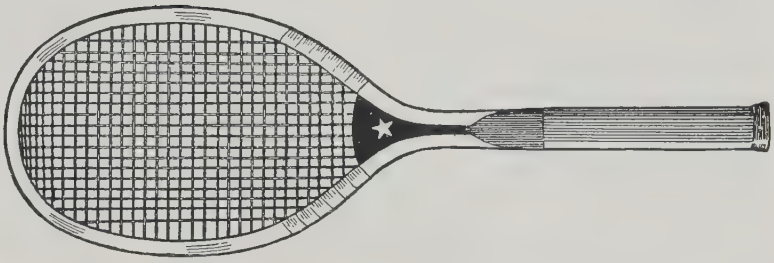
requires two successive scores by the same side to win the game. It is called a "Deuce and Vantage game," and the score when it reaches that point is called "Deuce."

The next point is called "Vantage in" or "Vantage out," according as it is won by the server or the receiver. The score is always called aloud by the server before each play. The silence of his opponent, or the reply, "Ready," indicates that he accepts the correctness of the announcement. In calling, the server always announces his own score first, and then that of his opponent. If one or the other has not scored, the word "love" is called as his score. Thus at the opening of the game the score is "Love – all," and it is so announced before serving. After the first play the score is "Love – fifteen" or "Fifteen – love," according to the side that won the point. Remember always to call the server's score first. The next score will be either "Thirty – love," "Fifteen – all," "Fifteen – thirty," or "Thirty – fifteen," according as the points have been won. The third play may be either "Forty – love," "Fifteen – thirty," or "Thirty – fifteen." The fourth play must be either "Game" (that is, the game won), "Fifteen – forty," "Thirty – all," or "Forty – fifteen." The fifth play, if there is one, may be "Deuce," or "Forty – thirty," or "Thirty – forty." The sixth play must be "Deuce" or "Game." Subsequent plays, if the game is not won, must be "Deuce," "Vantage in," "Vantage out," or "Game."

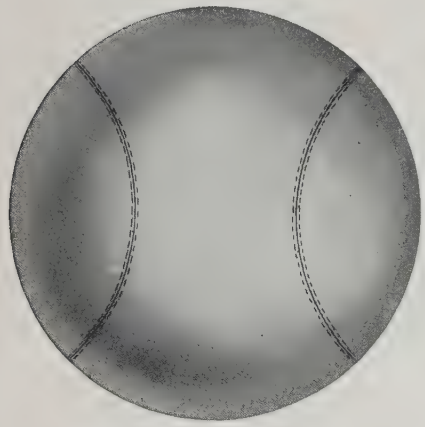
A set consists of six games won by one of the contesting parties. A full championship match consists of the best three out of five sets. Before playing a set there should be an agreement as to whether or not it is to be a "Deuce and Vantage set": that is, if the score of games reaches five all, it is the rule, unless otherwise agreed in advance, that two successive games must be won by one player to win the set. The only other rules of importance in tennis are that the ball may not hit any part of the person of the player. If it does, he loses the point. So he does if his racket touches the net while the ball is in play, or if he reaches over the net and strikes the ball before it has passed the net. In



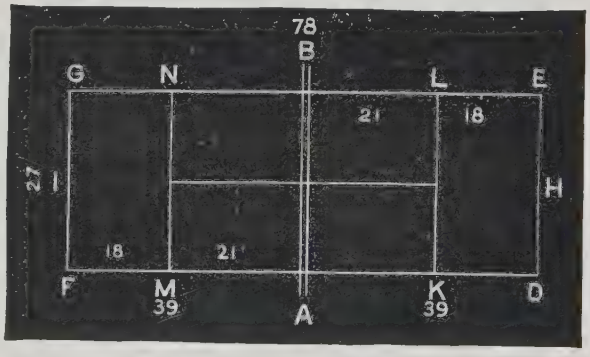
THE REINFORCED NET WITH STRONG IRON POSTS IS BEST



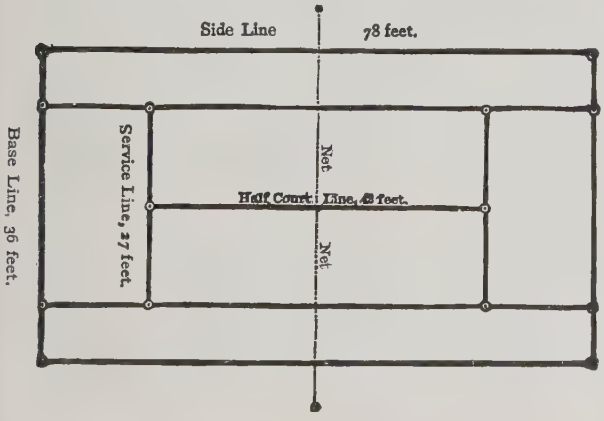
THIS IS THE SHAPE OF RACKET GENERALLY PREFERRED



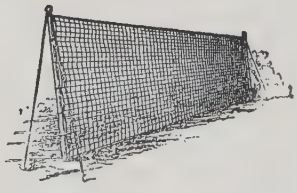
A CHAMPIONSHIP TENNIS BALL



LAYOUT OF A SINGLE COURT

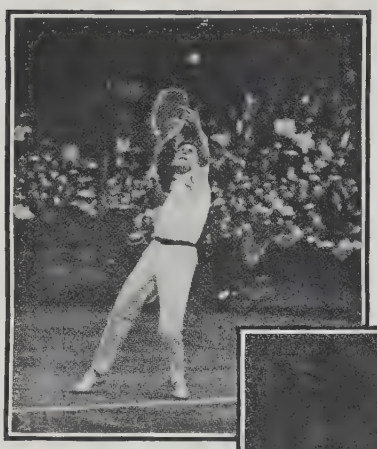


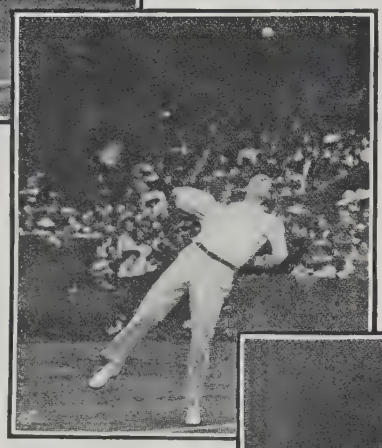
DOUBLE AND SINGLE COURT

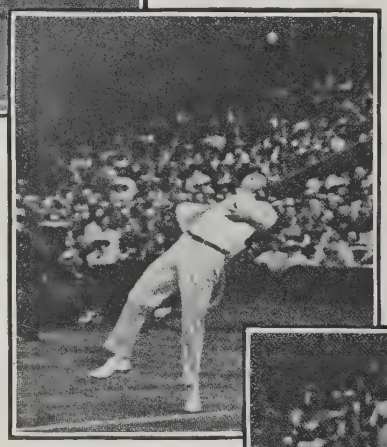


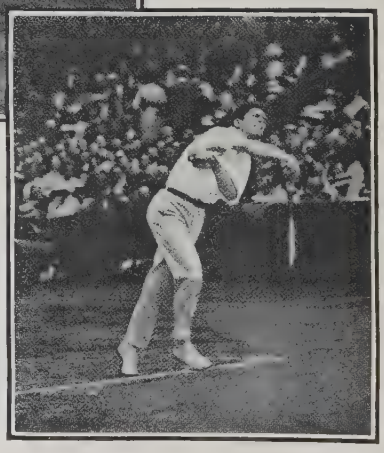
END NETS FOR LAWNS. PERMANENT WIRE NETS ARE BEST FOR REGULAR COURTS

DETAILS OF TENNIS COURT AND EQUIPMENT









FOUR POSITIONS OF THE OVERHAND SERVICE, SHOWING HOW THE WHOLE BODY IS BROUGHT INTO MOST ACTIVE PLAY

serving, the ball may not be bounded and struck at. It must be tossed into the air and struck before reaching the ground. In championship games an umpire rules the games and calls the score. But an umpire is not ordinarily necessary. Tennis is a gentleman's game, and no gentleman cheats.

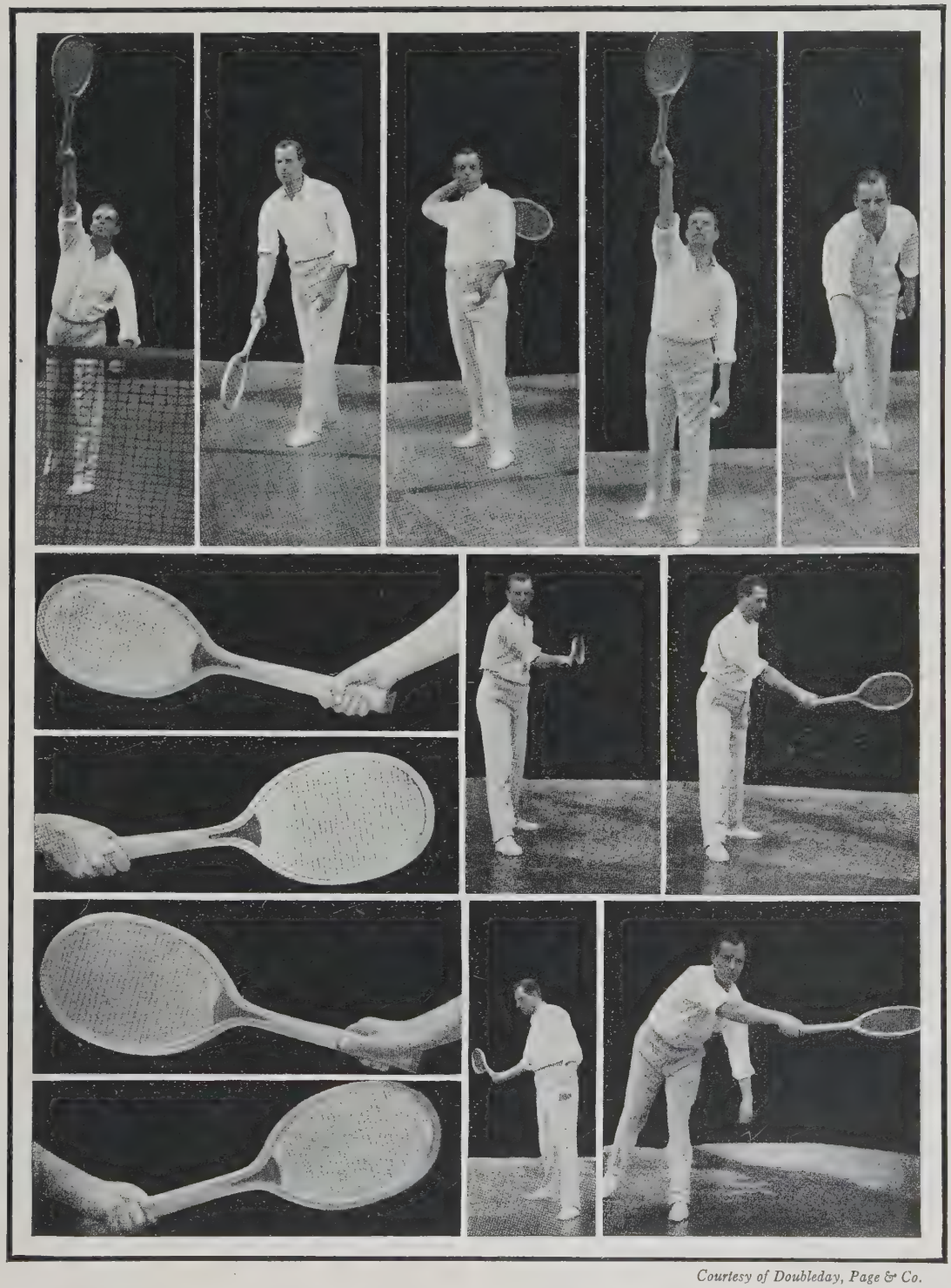
FINE POINTS OF PLAY

Tennis is a game of great skill and taxes the physical powers of the strongest. For those who wish to know its strategic points, here are a few hints from one of the experts who has gained the rank of world champion. The illustrations show how he grips the racket and his manner of service and of making various strokes, but he wisely says that a good player uses many grips, and adapts himself to the constantly changing conditions. Occasions break all rules.

Begin the stroke with the racket well back of the body. Carry it forward in an even sweep, keeping the face of the racket full against the ball. Be sure that, in following the stroke through, after the ball has been hit, the racket follows the direction of the ball. Do not bring it over across the body. Stand not too near the ball. Strike the ball when it is exactly opposite the body. In the forehand stroke, especially, let the swing of the body aid the swing of the arm. Strike the ball when as high in the air as possible. This last injunction is not in line with the practice of many of the crack players, especially those who use effectively the famous "Lawford" stroke, which requires waiting until the ball is near the ground. Each player suits himself on such points.

THE SERVICE

Toss the ball well into the air, and hit it while it is as high as your arm will comfortably reach. A correctly thrown ball, for a service, reaches the proper height at a point directly above the shoulder. It is a good thing to practice throwing, tossing the ball in this manner without striking at it with the racket. Keep firmly on your feet while serving. Do not hit the ball on the run, and do not jump into the air for it. Give a very slight cut to the stroke. Too much cut is a source of weakness. You may learn as much or more by handling a racket on a court alone as in a match game with a fine player. Practice by yourself for accuracy.



Courtesy of Doubleday, Page & Co.

HOW AN EXPERT SERVES AND MAKES HIS STROKES

Top: a smash at the net, and four phases of overhand service, from beginning to finish. Lower figures: backhand and forehand return, and finish of smash: on the left, forehand and backhand grips, front and back.

VOLLEYING AND SMASHING

Practice against a wall, or with the aid of a small boy to throw balls at you. Do not overdo in attempting to "bury" the ball or to place it in too difficult a position. Strike the ball when it is at the highest point practicable. Whenever it is possible keep the head of the racket above the wrist. This rule holds for all manner of tennis strokes. Of course it is not always possible. Do not cut much. Strike the ball squarely with the full face of the racket. In volleying try to catch the ball on the racket and throw it, or push it with the racket. A correct volley is a push rather than a hit. The smash is a service in point of principle.

TACTICS

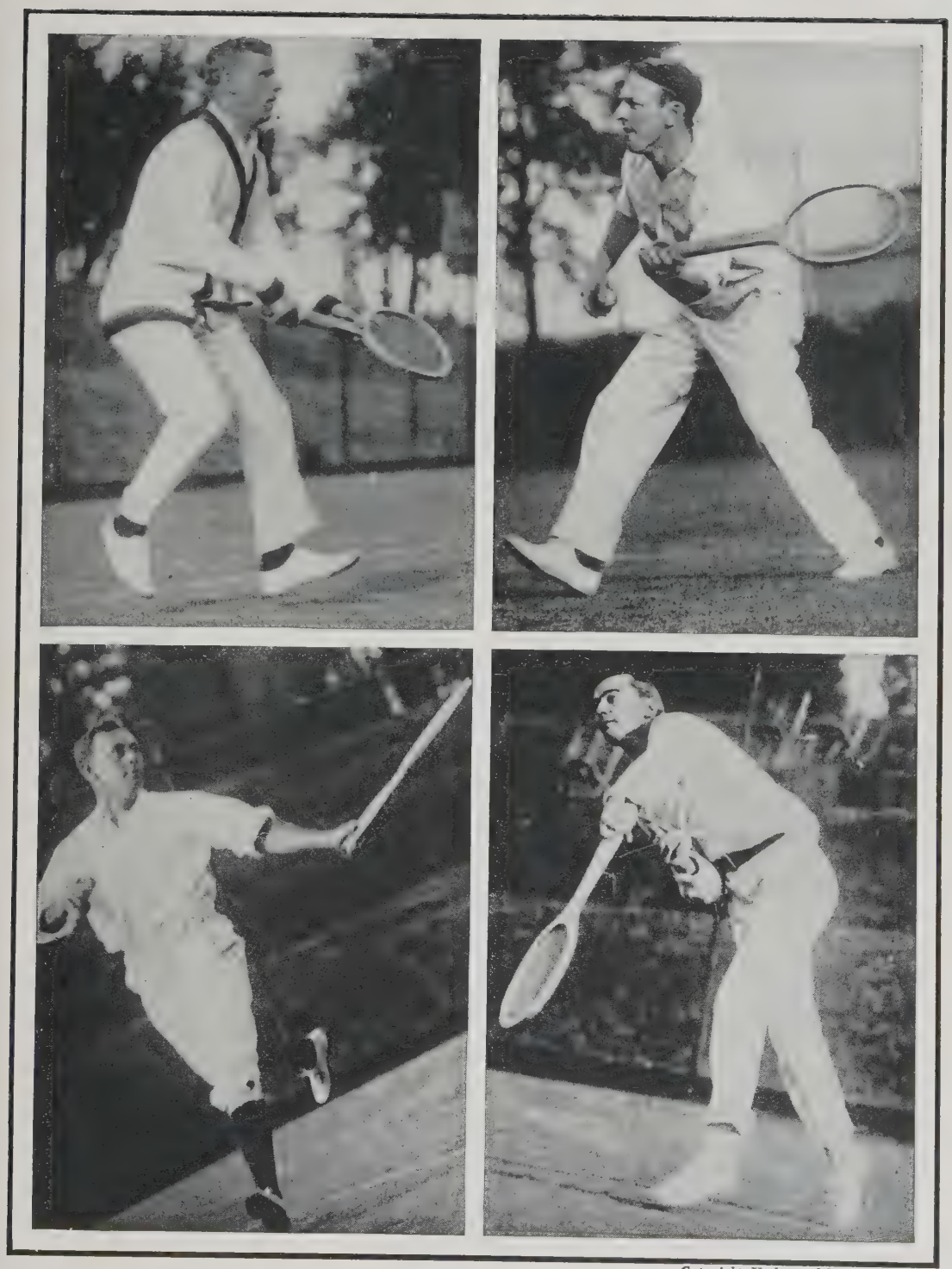
Matches are not won by skillful strokes alone. Good "head-work" is equally important. The two great principles of good tactics are, first, to conceal well your own weaknesses; second, to discover and play against your opponent's weaknesses. Play so as to give the greatest number of opportunities for the use of those strokes at which you are best. And of course compel your opponent to use those in which he is weakest. This is very likely to be his backhand stroke. Do not come up to the net immediately upon serving unless you can volley well and have a strong service. But modern tennis leans more and more upon volleying. Therefore practice this, and, having learned to volley, come to the net at all opportunities.

In running up it is important to come all of the way. Do not stop at the service-line. To hold the aggressive and force your opponent to the defensive is a large part of the battle. Try to anticipate your opponent's stroke. You can do this by studying his position and the way he is holding his racket. You should also remember his favorite strokes, and bear in mind the most likely thing for him to attempt to do — that is, the thing that he ought to try to do. Nothing so breaks up your opponent's game as to have it continually anticipated. Some players, realizing that a five-set match is a trial of endurance, favor holding back their strength at certain periods of the match. This is fatal. Go in hard and play hard all of the time. There is no other way to win. Modern play has a tendency toward greater speed than ever before.

On the whole the best training for tennis is the playing of tennis. But for hard matches the player must be systematically trained and cannot rely upon the game alone. The daily routine of one expert, who kept in the pink of condition throughout the season, playing a large number of matches of the hardest sort, began with rising at seven, followed by a walk and a little running; breakfast at half-past eight, a good meal leisurely eaten. At eleven some stroke practice, and then three, four, and sometimes even five sets of tennis against the best opponent available. Lunch at half-past one, another substantial meal, with good rest afterward. At half-past three, more stroke practice, and two or three sets of doubles. Dinner and a rest of at least an hour and a half. A round of skipping, running, or playing against the wall; a bath with a good deal of massage; and to bed at a quarter-past ten. That made the day when in full training.

Of course this is training of the experts for tournament play. For ordinary matches such good condition as results from going to bed and rising early, avoiding excesses in eating, playing as frequently as possible, and keeping in the open air, always sleeping with open windows or on a sleeping porch, is sufficient. The exercises that help the tennis player most, aside from playing the game itself, are said to be skipping, short fast sprints, and ball-punching. Those who go on the courts without any preliminary preparation will find out next day that there are many more muscles in the body than are commonly in evidence.

Do not get the idea, however, that tennis is a matter chiefly of championship matches and first-rank players. It is good fun at any time and on any court, public or private. The moderate player gets satisfaction out of it, according to his degree of skill, as much as does the expert. Few games call for more head-work and alertness of both mind and body, and it has in it no element of rough play, while it is one of the best all-round developers of a good physique. The more golf and tennis are played by the young people, the better for the future of the country.



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TENNIS IN THE PLAYING

A group of remarkable action pictures illustrating the demands of the game upon speed and skill. Top: Typical English return strokes. Bottom: Running returns, forehand and backhand.

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A UNITED STATES ARMY OFFICER GUIDING HIS SPIRITED MOUNT OVER THE JUMP

The army is proud of the horsemanship of its officers. No one can graduate from West Point without becoming at home in the saddle.

HANDBALL AND BOXING

HANDBALL

A GOOD many players of games find that it is hard to discover a good game which can be played in stormy weather or in the winter. Handball is a game which meets this difficulty. It can be played indoors, or outdoors under a shelter, in any weather, and it combines exercise with skill to just about the right degree. All things considered, it is rather odd that there are not more handball courts, in the cities particularly, open to the public.

THE CHARACTER OF THE GAME

The game is not one which has been worked out very scientifically, and it has little standing among sportsmen; but this is in a way one of its delights. Just as a good angler sometimes likes to go out for an evening of bullhead fishing, where no skill and a strong line are the requisites, so the player of games sometimes relishes an informal game of the simpler sort, like handball. In England the game was developed at several schools, under the name of "Fives." Evidently the boys began batting a ball up against a wall and gradually made rules, one after another, until they had a list of them. These rules vary a good deal at the different schools, often for no other reason than that the walls of the school building or the court where the boys began to play have certain buttresses and other irregularities which required local rules. So at Rugby certain irregularities in the court have been called the "pepper-box," the "hole," and the "step," and regulations have been made to fit them. Handball has been adapted to the grounds it is played on.

THE SIMPLE PRINCIPLE OF THE GAME

Accordingly, perhaps the best thing to do in this short article is to state the principle of handball very simply and suggest some ways in which it can be made to fit local conditions. The whole game depends on hitting a rubber ball against a wall with the hand in such a way that an opposing player will have difficulty in hitting it against the wall again when it rebounds.

PLAYING THE GAME

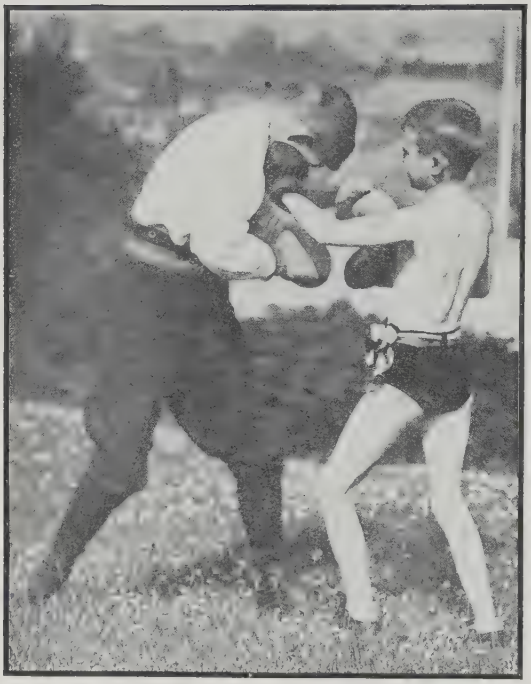
Suppose then we have a blank wall with a fairly level space before it. Across the wall, three feet from the ground, should be drawn a line, and on the ground or floor should be marked a rectangular or square court about twelve feet deep. Within this court, about nine feet from the wall, should be a taw-line. Now we are ready to start.

Players are divided into two sides, the "ins" and the "outs." The game starts with one of the ins dropping the ball at the taw-line and striking it with the flat hand when it bounds so that it will hit against the wall above the line marked there, and rebound behind the taw-line but within the court. The outs must then hit the ball back against the wall and above the line, either on the volley or on the first bound; and the game proceeds until someone misses or the ball strikes below the mark on the wall or outside the boundaries of the court. After the first service the ball need not rebound behind the taw-line.

When an out misses, the ins count one; but when an in misses, the outs take their place at service but do not score. Fifteen points make a game.

VARIATIONS ON THE GAME

The game resembles tennis in several ways and depends on much the same strategy of placing, cut strokes, and changes of pace. The taw-line resembles the back-line of a tennis court, in that any ball which strikes behind this line on its rebound from the wall is outside. Variations on the game have to do with side walls, which may be used for ricochet or carom shots, and on similar small improvements for making play more difficult and skillful. Those who are interested in learning these improvements should read some account of "Fives" in an encyclopedia or English book of games.



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BOXING

THERE are people to be found who look upon boxing with disfavor, just as there are people who are extreme enthusiasts over it. Suppose we try the experiment of taking a position between the extremes, between the "ringside fan" on the one side, and on the other side the person who can see in boxing nothing but a brutal and degrading animal activity. We, from our sensible position midway, can see that prizefights, much as they appeal to us, and interested as we get in the newspaper talk about big bouts, are not much closer to really worthy sport than dog-fights are. And we can also see that boxing in a clean amateur way is one of the best sports for developing strength, and agility, and coolness, and the power of self-defense. Certainly there is no prettier sight than two lads sparring, their muscles all in play, dodging, advancing, letting fly with left or right, side-stepping, blocking, feinting, jumping again to the attack. And certainly the principals in the sparring-bout know that in no other sport are they kept more fully alive and alert, a heavy price being set upon a moment's slacking of the attention. In addition, boxing reveals to you your own character, and the characters of those you box with. It may even be said that you do not know your friend until you have boxed with him.

THE BOXER'S POSITION

Most of us have in our mind's eye a picture of the boxer as he used to stand, fairly upright, with his left arm well advanced and his right bent and held close to the lower ribs. This we may contrast with the pictures we see of the ultra-modern boxer, crouched low and with both arms advanced. Each boxer has his favorite posture of defense and attack; and you and I are both at liberty to discover and adopt the position best suited to us.

One guard is practically invincible. To assume it, hold the right arm as in the old-style position, and at the same time bring the left arm up, with the forearm not far from the face. If you take this position, no blow can reach the vulnerable parts about the weak lower ribs, and you can watch in safety from behind the left forearm and lower or raise this arm as need may determine. This is the position to take when hard pressed and undecided as to the form of attack you will make use of.

Obviously, with both arms so near the body you are not in good position to launch a blow, or to make those feinting darts of the glove that cause the enemy's guard to shift so that you can find the way to his body with a real point-scoring blow. The consequence is that the best all-round position is a compromise between extension and contraction.

Thus the most skillful boxer of the present day will be found to keep both arms moderately extended, one advancing while the other is brought back in readiness for guarding or for advancing in its turn. The arms should both be in perpetual mobility. This is not to say that they should be kept in an exaggerated see-sawing; it is to say that they should always be limber and lithe and kept moving about in a way likely to hide from the opponent the nature of the intended attack. Above all, the arms should constantly act together. With practice it becomes second nature to cover

with one arm as much as possible the area exposed by the other, and to guard with one arm the counter-blows that the other arm's attack is likely to call out. Until this coöperation has become second nature much study and practice must be spent upon teaching the arms to do the right thing automatically. For this purpose it is desirable to practice certain blows and guards over and over again with some mate who will agree to take things slowly and easily, tapping instead of hitting.

ATTACK AND DEFENSE

No experienced boxer will need to be told that for every advantage gained an advantage must be given. There are practically no "safe" blows. To lunge and put your weight behind any blow with either hand to head or to body is to risk being thrown off balance and to open up some part of one's anatomy to a counter-attack. From this truth two things follow: you must learn how to make the most of the opening left by each attack of the opponent, and you must learn what counter to guard against while making each different attack.

Suppose, for example, that you strike out with your left for the adversary's head. If he can raise his right arm in time to ward off your blow outward, he will have his choice of countering to head or to body; for your right arm cannot securely guard both above and below. He will counter to the spot that he thinks you least able to guard successfully. This you must expect; and so when you let go your left to his head, you must have your right in readiness for instant motion to the point of his counter-attack. It is at junctures like this that the instinctive cleverness of the boxer must come into play. We'll say that your left has been parried. Where is your opponent going to strike? You must outguess him if you can. You must see the position of his left, out of the corner of your eye — for of course your eyes should be fixed on his all the time; and you must instantaneously judge his intention if you can. Or perhaps you can draw him into striking high or striking low, by purposely throwing your right guard a little wide of the normal. This much is certain: that if you can foresee what he is going to do, you can be sure what to do yourself.

Of course, in the heat of a mill situations do not present themselves clearly and one by one. But it is only by thinking all the various situations out and practicing them slowly that instinct can be trained to step in and do the work of the slower reason.

KNOCKOUT BLOWS

Without thought of using them in friendly boxing, everyone ought to know the blows that most speedily touch the vitality and bring on unconsciousness. The time may come when you will face a ruffian and need every resource to cope with him. The point of the jaw and the pit of the stomach are the points of quickest vulnerability. A blow squarely lodged on the jaw sends a jar into the jaw-sockets and so directly into the brain at a point where it is least well protected. A sharp blow on the temples has a like direct effect on the brain. At the pit of the stomach is gathered a knot or plexus of nerves that spread in all directions like the rays of the sun (Latin, *sol*) and so give rise to the name "solar plexus." If this knot of nerves is suddenly jarred, an instant paralyzing effect extends to various limbs and organs. Less direct and immediate but almost as serious effects result from blows in the short ribs and slightly back of the middle line, points at which the kidneys and liver are near the surface.

It is the purpose of this article to be suggestive rather than to deal completely with the complicated and subtle art of boxing, with all its head-work and foot-work, and the scores of variations of blow and counter-blow. If you would become a master of this art, agree with some friend to study some standard book on boxing and work out the problems one after another. When you have a firm grasp on fundamentals, box with as many different opponents as you can, always giving a wide berth to "sluggers" and people of quick and ungovernable temper. In many of the activities of life you can get on well enough with a quick-tempered person; but not while boxing with him, for boxing, as was said above, brings fundamental character right to the surface.

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THIS LOOKS LIKE NOON RECESS ON A SPRING DAY — EXPERTS ALL

TRADITIONAL BOY EMPLOYMENTS

THERE are certain sports that seem to have their seasons as regularly as the migration of the birds. One day not a top or a marble is to be seen; the next, the sidewalk blossoms into groups of boys at one or the other of these sports, according to the season. Both the top and marble seasons are short, but they are very strenuous while they last.

The ways of playing marbles are too numerous to be told. Each locality appears to have its own rules and favorite games. The games are of four types, each of which has many modifications. These are Little Ring, Big (or Bull) Ring, Lagging, and Tossing.

The Little Ring is made by two curves crossing. It is shaped like a lens. At some distance from this ring a base line is drawn, and at the end another line called the end. Lines are also drawn on the sides, forming altogether an oblong boundary with the ring near one end.

The players each place a marble along the middle of the ring. They then take their position at the base line and lag for first turn. The boy whose marble comes the nearest to the first marble in the ring has the first turn, or the choice of turns. This point being decided, the player must begin by standing back of the base line and play, with a marble called the shooter, toward the ring, attempting to knock out a marble from the ring. He must shoot, or snap, his shooter, although he need not hold his hand stationary on this first shot. If he succeeds in knocking out a marble, he has another turn, shooting now from where his marble lies, if it remains within the boundary lines. He must shoot now without moving his

hand and with his knuckle on the spot where his marble lies. If he has passed one of the boundaries, he may shoot from any point on that boundary line. The other players, in turn, follow, playing in the same fashion. When all of the marbles are knocked out of the ring, the game begins again. The player knocking out the most marbles wins the game. Instead of shooting at the marbles that are in the ring, a player may shoot at the shooter of any other player that lies within the boundaries. If he succeeds in knocking it out of the boundaries, the player whose shooter it is must allow him to take a marble from the ring. The marble that has been knocked out must be played from the boundary beyond which it has been knocked. These are the elements of Little Ring marbles.

The Bull Ring is a large circle around which the players gather, using the ring as a boundary line. Each places a marble in the center, and, after lagging for first turn, attempts to knock a marble from the ring. He must leave his own shooter in the ring if it fails to come out in the shot. While it is there it may be shot at in the same way as any other marble, and, if knocked out by another player, must be redeemed by giving a marble in its place. At the player's next turn, the marble must be shot from the point where it lies in the ring, knuckling down without the liberty of moving the hand. This is called "knuckling bull." It is a game for the big boys, as it requires great strength of fingers.

Popping Marbles is played against the wall, or stone. The players take a stand at a distance agreed upon, and the marble to be popped at is placed near the wall. The player whose turn it is to pop takes his position on the line and his marble between his thumb and first finger. He then, with an overhand motion, pops the marble at the one against the wall. Every shot that he misses gives one marble

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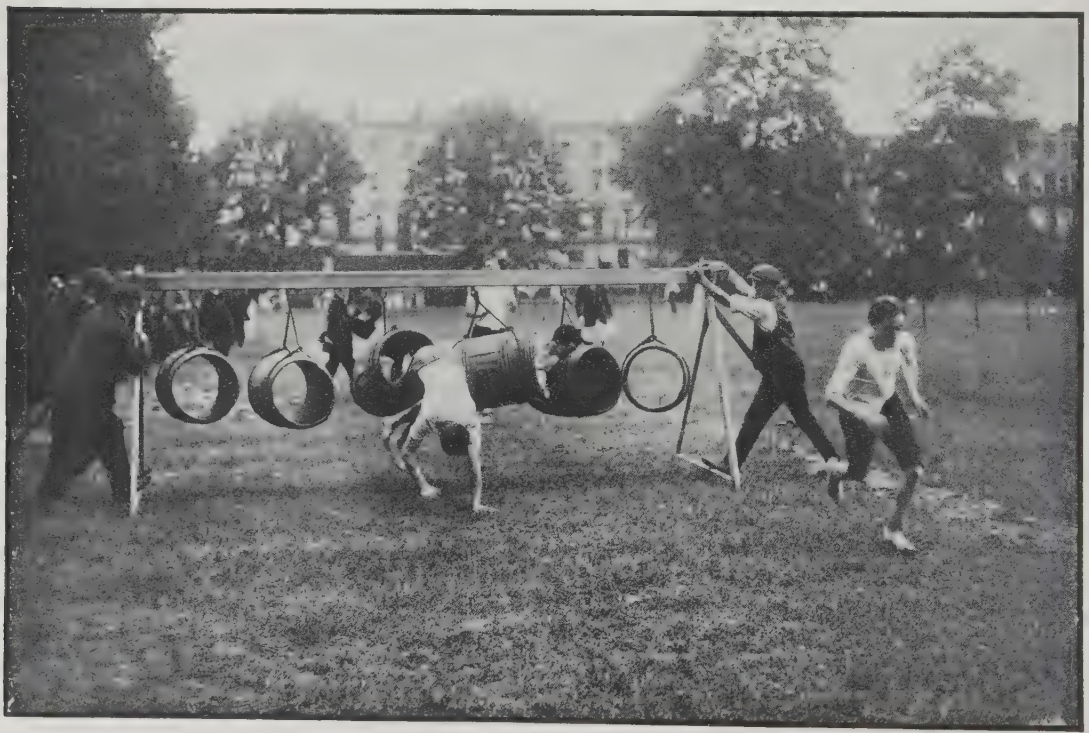
LEAPFROG AS PLAYED BY GENERATIONS OF BOYS

to the player who has set up the mark. After he has hit the mark, he takes that marble.

TOPS

Top spinning out-of-doors is played with peg tops and with string or whip tops. The whip top is spun by lashing it with a short thong tied to the end of a stick. This thong, when it strikes the top, twirls around it, and by being drawn sharply back causes the top to spin. The top can be kept spinning indefinitely by this process. A whip top slants in a conical shape for a short distance from the peg, and then rises straight for an inch more. It is about this straight surface that the whip is made to play. The peg top is conical from peg to top. It is spun by wrapping a string tightly and evenly around it for about two thirds of its surface, beginning with the peg. A knot in the end of the string keeps it from slipping off the peg, which is grooved. The knot is not tied about the top, but the string overlapped just behind it, forming a noose that unties itself when the top is thrown. The other end of the string is held firmly in the hands, usually by means of a button that is slipped between the fingers. The top is then thrown in such a way as to alight on its peg at a distance about a foot beyond the length of the string. If it is thrown with force, the string unwinds rapidly, and imparts a twirling motion to the top.

Peg top has no more of a peg than has a whip top. It gains its name from the game of pegging which is played with these tops. In this game a large ring is made, like a bull ring at marbles, and the players stand around its edge. Each spins in turn. Any top that is in the ring spinning may be pegged at while it is alive. If it is hit and knocked out it is won by the other player. When the top stops spinning it always rolls for a little distance. If in this roll a top that has been played into the ring fails to roll out of the ring, its owner must place it in the center of the ring to be pegged at dead. He may knock it out with another top of his own, if he can. Great accuracy may be attained by practice, and the game, though simple, is fascinating.



AN OBSTACLE RACE

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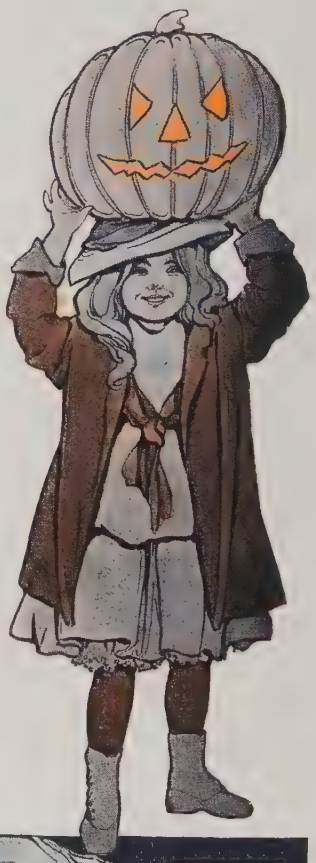
HALLOWE'EN

Wi' merry sangs an' friendly cracks,
I wat they did na weary;
And unco tales, an' funnie jokes —
Their sports were cheap an' cheery.

BURNS — "Hallowe'en"



INDOOR PASTIMES

HOLIDAY PARTIES FOR BOYS AND GIRLS

THERE are parties and parties! But there is one thing that is necessary to the success of any and every party — and it does not cost a penny and it cannot be bought with all the gold in the world. Every boy and girl may possess it. The key to happy party-giving is "true hospitality," and true hospitality is just another name for simple generosity and thoughtfulness. "Simplicity" is another way of spelling true hospitality. Everyone will be comfortable in getting ready for a *simple* party, and so everyone in the home will be ready to make the guests comfortable. Then plan every moment of the party as carefully as you can. The success depends on its starting off well and having no awkward pauses between times.

One of the first things is to get everyone acquainted at once. This is one of the kindest ways in which you can be most truly hospitable. The more parties you are allowed to have the more easily you will do this. You see then that if giving a party does not mean a great deal of money and time and strength, you are pretty likely to give them oftener.

GETTING ACQUAINTED

There are several ways of introducing your guests. Of course, every child should be

taught a simple form of introducing two people — little and big — but this kind of introduction never really helps young folks much. It tells them each other's names and that is about all.

A very simple method is to cut a plain white card into two pieces by a zigzag, irregular line, so that fitting the two pieces will be like putting a two-piece picture-puzzle together. Be careful in preparing the cards to keep the parts in separate piles so that the girls draw from the pieces which match up to those held by the boys.

Another way is to divide some well-known rhyme into two parts and distribute them to your guests; as, for instance: "Mary had a little lamb." (This is the line one child holds.) "Its fleece was white as snow" is in the hand of another child, who tries to find the person who has "Mary's lamb."

It is really the first half-hour of your party that will test your hospitality the hardest. If you can succeed in making all your guests feel at home in the first half-hour, the rest of the party will be more than likely to take care of itself. Nothing is so contagious as fun and laughter.

Above everything else, be especially thoughtful to anyone who may not be as well dressed as the others or is shy. Remember that we are always eager to appear at our best. If someone has to wear clothes that make him feel uncomfortable and noticeable, you can make him and everyone else forget it if you will put him at his ease. Be careful to dress simply yourself. Nothing is so thoughtless as to appear at your own party dressed more handsomely than the children invited can afford.

Indeed, you have only to remember that if you give a party for your own pleasure you have at once assumed a duty to others that should come *before* your own pleasure. Unless you are sure that their pleasure is more important to you than your own, don't give parties. You can't offer true hospitality, and you will neither give nor receive happiness.

Perhaps this way of looking at party-giving will prevent you from giving *so many* parties, but it will be sure to make those you do give *successful*. And after all, what is more disappointing than a party that is a failure — or more delightful than one that just seems to take care of itself?

A NEW YEAR'S PARTY

Who comes dancing over the snow,
His soft little feet all bare and rosy?
Open the door, though the wild winds blow,
Take the child in and make him cosey.
Take him in and hold him dear —
He is the wonderful glad New Year.

DINAH MARIA MULOCK.

OUR New Year's party may be an afternoon or an evening party, the games suggested being adaptable to either, if a large room is cleared for the active ones. As an afternoon party would permit some outdoor sport, if the weather and the guests were favorable, we will describe first a group of jolly games particularly adapted to the space of "all outdoors." After that we will plan a programme including active games suitable to an indoor party.

OUTDOOR GAMES

Circle Ball. — For this merry game a tennis ball and as many children as are in mood for the fun are the two requisites.

The children form a circle, with one child in the center. Back and forth flies the ball, thrown from one side of the circle to the other, while the youngster in the center, who is the target, tries to remain in as long as possible without being hit. He sometimes adds a moment to his success by catching the ball. In that case the hit does not count. Whoever finally throws the ball so that the target is hit takes the target's place in the ring. Let one of the older folks time the players, as the game is won by the player remaining longest in the ring. This game may be played in a room that has been cleared for just such active sport.

Witch in the Jar. — If our party is a mixed one, and the boys present think this rather a girls' game, they have only to recall the legends and fairy tales to realize that by no means are all the hobgoblins and fairies girls, although the "witch" must be a girl, to be true to tradition.

Each of the children takes a post or bush or tree for his goal. The witch counts the players, and marks out on the ground as many circles as she has players. These circles are the "jars" into which she claps any child she can catch when he ventures from his goal. The only

chance of escape from the jar lies in the kindness of some companion who is willing to run the risk of being caught, while he runs to the jar and touches the prisoner. If this unselfishness meets its right reward, the freed child may return to his goal unmolested. The freer does not stand this chance, however, for the witch may catch him if she can and pop him in turn into a jar. When she has caught all the children a new witch is chosen and the game continues.

THE INDOOR FUN

Let us now go indoors, and to the playroom or whatever large room has been cleared for the merry games of action.

A Nut Race. — It is good fun to start with a nut race, as the children choose sides for this and are at once put at ease with each other. They line up on opposite sides of the room under a captain. At each end of the double line two bowls are placed, one empty and the other filled with mixed nuts. At a signal each captain takes on the back of his left hand as many nuts as he can gather there without using his right hand. He carries the nuts to the empty bowl at the other end of the line and is followed in turn by the players on his side. The side which fills its opponent's bowl first wins the game.

Japanese Tag. — By this time the children are likely to be in the mood to enjoy a game of Japanese tag. Japanese tag is like ordinary tag with this important exception: that when a player is tagged he must place his left hand on the spot tagged and keep it there until he has caught some other boy or girl. The game works out in this way: the one who is "it" endeavors to tag a runner on the knee or foot, so that his efforts to tag anyone else while his hand is on that part of the body will be awkward and amusing. A ten-minute trial of this game will prove to a breathless and laughing crowd that there is even more fun in it than the description suggests.

Bachelor's Kitchen. — The players may be seated in a circle, with one child chosen as the bachelor. He goes to each child in succession and asks him what he will give to the bachelor's kitchen. Each child chooses some article, such for instance as a nutmeg grater. When the questioner has learned from all the players the things they will give, he returns to the first and asks him any question he likes, to which the player may answer only the name of his gift. The question is meant to be so ridiculous when answered by this word that the player questioned will laugh, and so be made the questioner. For example, to the child who gave a nutmeg grater, the questioner might say, "What is your favorite drink?"

Present and Advice. — With the children already seated, the game of "Present and Advice" is good fun. Two children are left out of the circle for this game. One whispers to each child, "I present you with this," naming some object. The second whispers, "I advise you what to do with it," and then names some task or action. Then the players in turn tell the circle of players what the two leaders have whispered.

THE REFRESHMENTS

The hungry children by this time will be ready for the nice hot supper that is now ready for them. Creamed chicken, lettuce sandwiches, perhaps some egg sandwiches also, potato chips, and cocoa, are all delicious and digestible dishes. Of course, even though the day is bitter cold the supper must end with ice cream and some dainty little cakes.

ST. VALENTINE GIVES A HEART PARTY

OF course there will be hearts of all sizes and uses for our St. Valentine's party. If you like, you will find it attractive to use valentines for place cards at the luncheon or supper table. Try to choose a card that in some way will be suited to the child whose name it carries. Red decorations are the most appropriate, as they signify the wounded heart, pierced by St. Valentine's dart.

FOR LUNCHEON OR SUPPER

Oyster patties, peanut butter sandwiches cut into heart shape, some plain bread-and-butter sandwiches, and olives will be wel-

comed by the hungry guests. Instead of the ice cream, if a change is desired, have Spanish cream with dainty cakes in heart shape, while, of course, the candies must all be appropriate. Nowadays it is easy to buy or make sweets for the special days, because so much attention is paid to all the little accessories.

HUNTING HEARTS

A heart hunt of some kind must be on the programme. It can be on the order of a thimble hunt, with a tiny candy heart for the thimble, or if you will take time beforehand and hide all over the rooms candy hearts, or tiny hearts containing them, the children may hunt for these and count who finds the most.

SCULPTOR

One child is chosen for the sculptor. Let the sculptor be a jolly boy, who will catch the spirit of the game. All the other players are sent to one end of the room. Then the sculptor turns his back for whatever length of time he chooses. While he is not looking the players try to get to the opposite side of the room, or as near to it as possible.

But on the instant of the sculptor's turning around, each child must halt and stand motionless, or he is sent back to the place where he started, to begin his march all over. If the sculptor catches anyone moving while he is looking, that person must be sculptor in his place. The game is sure to be a lively one, as there are frequent changes of sculptors.

BLOWING THE FEATHER

Now for a more restful game. Borrow from mother a good-sized sheet, and have your guests seat themselves in a circle on the floor. Then hold the sheet about a foot and a half above the floor, and place in the middle of the cloth a feather. You may act as the first leader, as in that way you can easily explain the game. At your signal the children blow the feather back and forth, while you run hither and thither trying to catch it. When you succeed, the player upon whom it has rested, or who is nearest to it, follows you as leader.

RING ON THE STRING

Just before the refreshments are served, gather all your guests into a circle, either seated or standing. Slip a ring (one of your own, or even a small brass one) upon a long piece of cord. Tie the ends together and let all the players take hold of the cord. Choose someone to stand in the circle and try to catch one of the players with the ring in his hands. All the children will have to play very cleverly in order to keep the ring moving about the circle. The player in whose hands the ring is caught gives up his place to the one in the center, and in turn tries to catch another child.

BLOWING OUT THE CANDLE

If other fun is desired, before the candle is blown out, you will find many games that will seem attractive for Valentine's Day. Then, before your party is ready to break up, light the pretty red candle, already in its candlestick, and place it on a table. Blindfold in turn each child and place him ten paces from the table. Turn him three times, and then let him take ten steps in the direction he thinks will lead him to the candle. At the end of his journey he blows — very often just thin air. The child who succeeds is supposed to be entering upon a very fortunate year. It is a pretty idea to give each child as he leaves a little candy candle done up in a red box. Try to have a color scheme for each of your parties and have table decorations, gifts, and place cards fit it.

APRIL FOOLS AND APRIL FISHES

IN France there is a curious custom in connection with the first day of April and all its attending tricks. Everyone buys different kinds of little and big candies and boxes for candies in the shape of fishes. These are given as presents to each other and play a prominent part in the day's jokes and festivities. Why not borrow this idea and carry it out in the decorations and games wherever you can?

You might explain at the outset that this is to be a French April Fools' party.

Here is a "foolish" kind of an invitation:

DEAR FRIEND:

May I have your company on April first this year,
To help me celebrate the date, with customs quaint and queer?
And will you wear your Paris hat, and "parlez vous Français"?
For we shall try to fish in France upon this April Day.

BEAST, BIRD, OR FISH

This is an appropriate game to start the fun, and one that helps the children to become acquainted easily. A member of the group ties a handkerchief into a ball and throws it to another player, counting up to ten as fast as he can. He who catches must answer, in the time allowed by the counting, with the name of a bird or a beast or a fish. If you want to make the game a real "fish" game, it is a good plan to make a list of fishes before the party, and let the children look it over, in order to sharpen their wits a bit. Whoever fails to answer with a name before "ten" is reached is out of the game. A candy fish may be offered for a prize.

THE STAFF GAME

Have all the children, excepting two, sit in a ring. Seat one child in the center of the ring. Then let the one who is not seated bring a cane into the center of the circle and present it to the child seated there. This dialogue follows between the two:

"My father sent me here with a staff,
To speak to you, and not to laugh."
"Methinks you smile!"
"Methinks I don't!
I smooth my face with ease and grace,
And set my staff in its proper place."

If the staff-bearer laughs, he must take the chair. If not convicted of smile or laughter, he passes the staff to another child who tries to follow the example of the first.

THE FARMYARD GAME

Be sure to inquire which of the children know this game and choose for the "rooster" a child who does not know it. Explain that the name of a farmyard creature will be given to each child. At a given signal, each animal represented must make all the noise it can. To the one player you give the name of the "rooster" and tell him to make the loudest noise he can or the others will outdo him. To each of the other players you simply whisper that at the given signal he is to keep absolutely still, as the joke will then be on someone else. If you have chosen your "rooster" wisely, there will be a jolly time when he crows wildly and loudly — and all alone!

After the refreshments have been served, gather in a circle and play the Scissors Game.

THE SCISSORS GAME

You may start the game yourself after you have explained that each must state how he received the scissors, crossed or uncrossed, and how he is passing them on, crossed or uncrossed. The trick lies in doing *with your feet* what you assert you are doing with the scissors. For instance, you may receive the scissors uncrossed and so you state the fact thus and at the same time see that your feet are uncrossed. According to the manner in which you pass the scissors to the next player, so must you manage your feet again — if passing the scissors crossed, deftly crossing your feet so that no one will notice the movement.

When you are tired of this game, ask your guests if they would not like to see a group of real April Fools.

MAGIC MIRROR

Of course they will. Then you will seat them closely together before the drawn curtains, that have been arranged before the party. Back of these hangings earlier in the day you hung the largest mirror that the house boasts. Across it you have written in soap the words "April Fools."

And then, when your audience is impatiently urging you to show them the fools, you may have your joke by drawing aside the curtain, and by laughing while they become aware that they are looking at themselves in a "Magic Mirror"!

EASTER EGGS AND BUNNIES

ON Easter Monday you will find plenty of use for the Easter eggs and bunnies that were given to you the day before; that is, if you decide to have a party to celebrate.

To get your guests into the spirit of fun, start with a "rabbit hunt." Choose a tiny candy rabbit to hide in a place within reach of the smallest child, that all may have the same chance. When the bunny is safely tucked away, have someone play a march, to which you will all march into the room and await the signal to begin the hunt. The finder, of course, has the next turn at hiding.

To vary this game, send only one child out, while the rest decide upon the hiding-place. Then, when the hunt begins, the hunter may be guided by the music that you or some guest will play — loudly when far away from the hidden rabbit and softly when close on its trail.

ROLLING EGGS

There are so many kinds of egg games, that one hardly knows which to choose. The simplest outdoor game is to roll the eggs down a gentle slope, with nice soft turf. One of the liveliest sights in Washington is the rolling of eggs on the White House lawn by thousands of children.

GERMAN EGG GAME

A game to play in the house is the one the German children enjoy. Two baskets, some shavings (or cotton will do), and the eggs are needed for this fun. One basket must be shallow. This you fill with shavings. The other basket is for the eggs. Choose one child to be the runner and another to tend the baskets. While the runner goes to a given point and back, the other child tries to get the eggs out of the egg-basket into the shallow one filled with shavings. It is a good plan to draw lots, two at a time, and let the other children watch the sport until they in turn have played. The pretty colored eggs may be given as prizes to those who have made the best records.

EGG CONTEST

Indeed, you may follow this game with an egg contest if the children agree to have the eggs distributed evenly among them all. Then pair the children off and let them stand ready with the eggs held in their hands in such a manner that only the small end is visible. At a given signal the two who form each pair try to break their opponents' eggs by knocking the ends together. If the winner is a healthy boy, he may choose to eat the egg he has won, and which by the rules of the game his opponent must give to him.

Among the refreshments have some maple-wax eggs. These can be made rather easily, if you are patient in the preparation. The egg-shells are emptied of their contents. A place about the size of a ten-cent piece is next made at the small end. The maple wax is just maple sugar dissolved in water and cooked until it will harden in cold water. You must take care in filling the shells to have them placed in an upright position where they are steady. Pour into each egg enough candy to fill it. The shell comes off easily at the proper time — which is that special moment when you can't wait any longer to eat your candy.

THE EGG GAME OF THE EMERALD ISLE

If you play this game outdoors, set up in sand six eggs, one of each of the following colors: green, red, black, blue, white, and gold. In the house the eggs may be propped up in soft cotton. If the following rhyme seems too long for all the children to memorize, let one child read or recite it as the other children play the game. Each guest is in turn blindfolded and given a rod or cane with which to try to touch the different eggs. This is the rhyme to recite:

"Peggy, Patrick, Mike, and Meg,
See me touch my Easter egg;
Green and red and black and blue
Count for six, five, four, and two.
If I touch an egg of gold,
It is mine to have and hold."

The account of each player is kept and the first to make twenty wins the game.

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MAY DAY

Fair maiden, lie you still asleep,
And let the morning go?
Arise, arise, accept the May,
That stands here all a-blow.

MAY dances around the Maypole, May baskets hung on your neighbors' door-knobs, May flowers filling them — and then, to make the day complete, a May supper out-doors, if it is only warm enough.

THE DANCE

"An even number of persons are required for this dance; half the number take the end of a ribbon in the right hand and half in the left; they then stand facing alternately right and left. When the dance commences, each dancer facing the right passes under the ribbon held by the one opposite facing the left; she then allows the next person going to the left to pass under her ribbon, and so, tripping in and out, the ribbons are woven around the pole.

"After continuing for a while, according to the above directions, the dancers separate into two equal divisions, and each party, independent of the other, plaits a strip which hangs loosely from the pole.

"In performing this variation the two parties stand on either side of the pole, and all those facing the right pass on in that direction, going in and out as at first, until the last person going to the right has passed the last person going to the left in her division; then, transferring the ribbons to their other hands, they all turn and reverse the order. Thus they continue, going back and forth until the plait is about a foot in length, when another change is made by the two parties joining forces again; this time, all those facing the left proceed to the right, thus forming two circles, one within the other. After going twice around the pole in this order, the dancers composing the inner circle take the outside and the others pass beneath their ribbons, again circling the pole twice; then, after going through the first figure once more, the dance may be ended, or the whole order may be reversed and the ribbons, in that way, be unplaited again."

These directions, so clearly given, should be studied by yourself and some older person, as there may be a number of children unfamiliar with the Maypole dancing. You will find in several different song-books Maypole songs set to just the right kind of music for the dance. At the public library such books can be drawn out on your card and kept for the period of time usually allowed.

Just before supper time, seat in a line all your guests and play "Slip the Ruler" to quiet them down a bit. Children are less likely to swallow the good things whole if they have been playing some quiet game just previous to the refreshments.

SLIP THE RULER

In front of the row one child takes his stand and tries to catch the ruler as it slips from the hand of one player into the hand of his neighbor. Pass the ruler in regular order up and down the line. Whoever is caught with the piece of wood in his hands must exchange places with the "hunter" who caught him.

THE BASKET SUPPER

There are two suggestions to be offered to you for supper. If you are to be the hostess to invited guests, you may be sure of surprising and delighting all the children if you have a little basket for each one, with the same kind of eatables in all. The baskets may be made

at home or bought at the store if your means will allow. Only don't urge mother to spend a lot of money for this or any other of your parties, as that may mean that you can only have an occasional one, while if you are content with simple things she will gladly give you more frequent opportunities.

If the party is in the nature of a picnic gotten up by a group of children, then each child may bring a basket with lunch for one, and exchange with another child, if that is agreeable to both.

THE MAY DAY COMBAT

If you have not already chosen a May queen, start the "combat" by choosing not only a May queen but also a Winter queen. The queen of May and her attendants (half of the number of guests) array themselves with flowers — garlands around the necks of the girls, and buttonhole bouquets in the coats of the boys. The queen of May has a wreath for a crown, and the queen of Winter wears a crown made of silver paper. Her attendants use tiny bells somewhere about them.

The two parties form into opposing lines, twelve feet apart. The May queen has as a weapon a wreath of flowers and the queen of Winter a snowball of cotton. At the given signal each queen tosses her implement to a person in the opposite line, whose name she calls. If the player named fails to catch the missile, he becomes a prisoner of the opposing queen, and must do battle for the other side, until released by catching the missile of his own party — if he has such good luck. Neither side may play while a prisoner is being taken or released.

When such a disaster occurs as the capture of a queen, a ransom may be effected by the return of all the prisoners on her side being taken. If she has no prisoners, the game is ended.

When the game is ended the winners take all the decorations of their prisoners and adorn themselves — this being done with much ceremony. The captured queen must strip herself of hers and present them to her captor, and her followers must do likewise. The captives must then serve as attendants of the victorious queen and her party.

FOURTH OF JULY

THE GAME OF "TOSS"

"TOSS" is good fun for old and young. You must have ready three each of red and white and blue discs. These are easily made out of colored cardboard, the day before. (By the way, one of the secrets of having your parties go off smoothly lies in having everything ready in ample time.) Divide the company into two parties. The first player takes the nine discs and attempts to throw them one after the other into a basket placed six feet from him. The discs count as follows: red counts one, white two, and blue three. When all the players of one party have had a turn, the other party follows suit. Each side plays five rounds, and of course the side with the highest count wins. A huge giant firecracker (the pasteboard ones that the candy stores sell) filled with candy makes a suitable prize, if you wish to offer one.

If your party is a lawn party — and that is just the kind to have on a summer day — a "Torpedo Hunt" will follow "Toss" and afford the fun of looking among the shrubbery and around the piazza for candy torpedoes.

FLAG RACE

When the hunt is over, choose two to start the "flag race." Give to each one a tape-measure, and twelve flags. The race is to set the flags into the ground, one foot apart. The one who has his row finished first wins the game. If you like, you may start all the couples at once, and the winners of each trial pair off against each other until you have thus produced the champion. This makes a lively game when played by all at once. An umpire must be chosen to keep track of the winners.

PROGRESSIVE MINING

This game is a good one with which to follow the flag race, as you can use the same flags. Have ready half as many flowerpots filled with sand as you have guests. Also be provided with a wand or light stick for each player. When the flag race is over, plant a flag in each pot,

sticking it down just far enough to keep it in a steady position. As the game is played in pairs, have ready some kind of tally card, with the number of the flowerpot on it, putting the same number on two cards. The guests may draw for these, and at once take position in front of the flowerpot upon which the corresponding number is chalked.

At a given signal, one of each pair starts to remove a little sand from around the flag in his flowerpot, without disturbing the flag. When he has finished, the other one does likewise, each player trying to leave the flag upright as long as possible. When one of the players at the mine marked No. 1 upsets his flag, the other calls out "prize" and becomes winner at that mine. These two wait till the flags have fallen at all the flowerpots. Then the winner at the prize mine remains at that flowerpot and the loser goes to the foot of the line, the "booby" mine. Count is kept on the score cards, and with the exception of the players at the prize mine the winners at each mine go to the next higher number. Then the flags are planted again for the next round, and so the game continues until it begins to pall. Then scores are counted and the victor's prize and the booby prize may be delivered with a speech. The speech will be easy to make if you give as prizes something suitable to the day.

If the refreshments are served outdoors, they will taste all the better.

CONSEQUENCES

If there is time after supper for fun between twilight and the hour for fireworks, the game of "Consequences" may be played. The players sit in a circle.

Each person is provided with a half-sheet of note paper and a pencil and is asked to write on the top (1) one or more adjectives, then to fold the paper over so that what has been written cannot be seen. Every player has to pass his or her paper on to the right-hand neighbor and all have then to write on the top of the paper that has been passed by the left-hand neighbor (2) "the name of the gentleman."

After this the paper must again be folded and passed as before; this time must be written (3) one or more adjectives; then (4) a lady's name; next (5) where they met; next (6) what he gave her; next (7) what he said to her; next (8) what she said to him; next (9) the consequence, and lastly (10) what the world said about it.

Be careful that every time anything has been written the paper is folded down and passed on to the player on your right.

When everyone has written what the world says, the papers are collected and one of the company proceeds to read out the various papers, and the result may be something like this:

(1) The horrifying and delightful (2) Mr. Brown (3) met the charming (4) Miss Phillips (5) in Westchester Park. (6) He gave her a flower (7) and said to her, "How's your mother?" (8) She said to him, "Not for Joseph." (9) The consequence was they danced the hornpipe, and the world said (10) "Just what we expected."

HALLOWEEN

THIS party is, of course, an evening party, for we can hardly expect spirits and ghosts to appear by daylight. To keep to the old ideas of Allhallow eve, let your party start with some fortune-telling.

THREE LUGGIES

"In order, on the clean hearth-stane,
The luggies three are ranged,
And ev'ry time great care is ta'en
To see them duly changed."

"Luggies" may be translated into "bowls" for your better understanding of the fun. Place in a row on the hearthstone or on a table three bowls, one containing clear water, one containing milky water, and the third nothing at all. First let the girls take turns at having their fortunes disclosed. Blindfold each girl in turn and lead her to the bowls. Direct her to put her left hand into one of the bowls, a ceremony which she must go through three times in succession. That bowl into which she twice dips her hand settles her fate. She will marry a bachelor if she has favored the bowl of clear water; a widower if the milky water has felt her touch twice, and she will

remain single if she has twice tested the empty bowl. When the fate of the girls has been decided, the boys must take their turns.

BOBBING FOR APPLES

No Halloween would be complete without this fun, indulged in at some hour of the evening. It is well to have it early, that the tub of water may be removed. If the boys have been willing to have their fates settled by the luggies the girls should join in the amusing sport of bobbing for apples in the tub of fresh water. The game looks exceedingly simple, but you will find it anything but easy to sink your teeth into one of the rosy, slippery apples, so tantalizingly near. Take the necessary wetting as part of the fun and keep on trying until you have succeeded in getting a bite out of an apple.

RAISIN ON A STRING

About this time your guests will be in the mood for "raisin on a string." String a raisin exactly in the middle of a soft cotton cord. Have half as many cords ready as there are persons. Two guests take each an end of a string, place that end in their mouths, and chew as fast as they can toward the raisin. The person who reaches the raisin first is entitled to eat it.

FRIENDSHIP NUTS

The company may enjoy testing nuts for friendship fortunes. One places two nuts upon the grate or on a shovel near the fire, after having named one nut for a friend and the other for himself. If the nuts burn quietly, the friendship is supposed to be a long-lived one. But if the nuts burst and fly apart, the friendship is considered doomed — if you like to pretend faith in Allhallow eve.

THE "FORTUNE CAKE"

The refreshments for the evening may be more or less hearty, but they should include a "fortune cake" and a "Halloween pie." The "fortune cake" is an ordinary cake in which have been baked a thimble, a ring, and a dime. Whoever receives the piece containing the thimble will remain unmarried — so the Halloween spirits predict — and whoso draws the ring will shortly marry. The fortunate person who finds the dime in his piece may expect a legacy.

The Halloween pie is a "pretend" pie — a real crust filled with tiny black cats (of china or cloth), and witches, brownies, and other appropriate articles.

A jolly way to pair off the boys and girls is to have in the dressing rooms aprons of calico for the girls to don, and calico bows for the boys — one apron and one bow of each pattern. This at once starts the fun and merriment which are particularly necessary to Halloween celebrations, where informality is an aid to success. This does not mean playing roughly nor carrying jokes too far, but just being free from stiffness.

FORTUNE-TELLING

No "ghostly" party would be complete without fortune-telling. It is better to have this toward the end of the evening. Have ready as many slips of paper as you have guests, and let each one read the fortune which you have been wise enough to have written beforehand. These fortunes may be as absurd as you like to make them. Write some for boys and some for girls and let each person draw his fortune by lot.

THANKSGIVING

LET us hope that the Thanksgiving dinner will be planned for a fairly early hour of the day, and the latter part of the afternoon and the early evening be given over to games in which both old and young may join. If your guests are not invited to dinner, appropriate refreshments may be served at the proper time. Popcorn and nuts and apples and candies in little pumpkin boxes will be sure to be among the things provided. Lively games will be in order.

MUSICAL NEIGHBORS

Draw lots to settle who shall be blindfolded for this game. The number is evenly divided, so that each blindfolded person is seated next to an empty chair. The others then sit quietly down, so that next to each blindfolded person sits one whose eyes are not bandaged. At a given signal those not blindfolded begin to sing some well-known tune. The blindfolded ones try to guess who their neighbors are, from the singing voices beside them. When one guesses correctly, he removes his bandage. It is fun to give a booby prize to the player who is the last to remove his bandage.

SPIN THE PLATTER

This is another good game for Thanksgiving Day, when so many well-laden platters have been in evidence that an empty one will seem lonesome. The players are seated in a circle and given numbers. You may, if you choose, give the boys odd numbers and the girls even ones. One player stands in the center of the circle and starts the fun by spinning the platter — a wooden one if possible — while he calls a number. The child whose number is called tries to catch the platter before it has stopped spinning. If he fails to do this, he must pay a forfeit, and in turn spin the platter, calling another number.

SHADOW VERBS

To end the party, play the game of "Shadow Verbs." You need only a sheet and a bright light for the game. Stretch across an open door a sheet with good light behind it. Darken the room in which the guests sit. Divide the party into two groups, one group to act the "verbs" and the other to guess what the first group is acting.

The group of actors decide upon a verb which they will act out, and then one announces that the verb to be acted rhymes with the word he mentions. For instance, the verb "rake" is to be acted, and the announcement is made that the chosen verb rhymes with "cake." The group continues to act until the audience guesses correctly, and then the two parties change places. Caution must accompany this game if a lamp is used.

FEAST OR FRUIT PIE

This is a most digestible pie, and one that will also give your brains just enough work after the real pumpkin and mince. Have ready a typewritten (if possible) list like the list that follows. There must be a pencil for each player.

You briefly explain that the letters under the heading "Questions" will form the names of fruits when the jumbled letters are properly arranged. Of course the lists given to your guests will have no words under the word "Answers"; the following is only arranged for your own instruction in the game.

Questions	Answers
1. Capeh	1. Peach
2. Aaabnn	2. Banana
3. Nraeog	3. Orange
4. Ntacocou	4. Cocoanut
5. Calbkrybre	5. Blackberry
6. Repa	6. Pear
7. Pmul	7. Plum
8. Nelmo	8. Lemon
9. Wrsbyrtare	9. Strawberry
10. Tarcurn	10. Currant
11. Lapenpipe	11. Pineapple
12. Rechyr	12. Cherry
13. Prage	13. Grape
14. Deat	14. Date

You may lengthen or shorten this list as you wish. Some appropriate prize may be awarded to the winner, and, if several tie, lots may be drawn to decide the matter.

ST. BARBARA'S GRAIN

This is not a game for a Christmas party, but it is such a pretty custom of France that it is a game for you to play by yourself on the 4th of December and start you Christmas-ward. Then, if you do have the Christmas party, you can show all your guests the bowl of St. Barbara's grain. It is the custom in France to fill a shallow bowl with water and sprinkle over it the seeds of lentils or of grain. By Christmas Day you will have the loveliest kind of a contrast to the dark green of holly wreaths and mistletoe, for the dish will be a mass of soft, feathery young green.

AT CHRISTMAS TIME

CHRISTMAS parties are so very likely to include little gifts for all, that it will add to the fun if you put the presents up in all sorts of queer shapes and wrappings. You may even follow the Polish custom and have a present hunt, hiding in advance the gifts intended for your guests. Be sure to mark them distinctly.

SANTA CLAUS' BALL GAME

If there is a Santa Claus present at your party, he will be invited to start his game of ball by trying to throw a nice soft ball of cotton through the wreath of holly suspended in some doorway. In Santa Claus' absence select someone to begin. After the game is once started, you can keep a score if you like, and give a simple prize to the winner. To add to the fun, you should have an umpire, who will not have much to do, but will just have the honor of his position.

THE CHRISTMAS CANDLE GAME

In full view of everyone place on a table a lighted candle — red for Christmas. Then blindfold the first person chosen to start the fun, turn him around three times, and set him free to blow out the candle! Simple? Yes, it does *sound* simple, and when you are the one who is looking on you will be sure that it *is* simple. But wait until your turn comes, and then listen to the laughter that arises when you start in a direction exactly opposite to the lighted candle.

If you like to vary this game, place the person to be blindfolded directly in front of the candle, and then put the bandage on while he stands there facing the candle. When safely blindfolded, tell him to take three steps back, turn around three times, then take three steps forward and blow out the light. Be assured there will be no less merriment than there was from the other method of playing the game.

Christmas has so many customs borrowed from the past that it is hard to choose between them. Santa Claus, your Christmas candle, your Christmas tree, or greens all give chances to adapt games which have been described.

SHOUTING PROVERBS

This is a merry game. When one player has been sent from the room, the others choose a well-known proverb, as for instance, "It's a long lane that has no turning." Give each player one word of the proverb and then summon the one sent out. At a signal from him, each person shouts the word assigned to him. The "guesser" must try to disentangle from the confusion the proverb you are repeating, and if he cannot do so he must go out again. He repeats the performance until he has correctly guessed a proverb, when another takes his place.

TWELFTH NIGHT CAKE

Though the Twelfth Night is not celebrated here in America as it is in France and England, you can probably have made for your party a cake with a bean and a pea hidden in it. Or you may follow the modern idea and place in it instead a small china image, as is now done abroad. In olden times the girl or young woman who found the pea became Queen of the Pea, and the youth who found the bean was King of the Bean. When this matter had been settled the fun began. Each time the queen or king drank, every person present had to say "The king drinks" or "The queen drinks" and follow suit. Forfeits were paid by those who failed to speak and drink in time. You see how much fun this will add to your feast.

OTHER HOLIDAY PARTIES

From among the suggestions made for the parties already mentioned, you may choose a programme for any one of the other holidays. The distinctive feature for each can easily be shown in the table decorations and prizes, as most of the games described are adaptable to any party.

[More games for parties follow, and in the first part of this book you will find a chapter on "Street and Playground Games" and "Indoor Athletic Games," both of which will give suggestions for group play. In Volume IX, page 148, is a chapter on "Giving a Party" for little children.]

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A FAIRYLAND PAGEANT

FIRESIDE AND PARTY GAMES AND ENTERTAINMENTS

EXHIBITION DAY AT THE DISTRICT SCHOOL

THIS can be worked up into a most amusing feature for an evening's entertainment, but it must be prepared beforehand. There must be a spelling match, number work (tables in multiplication, etc.), a singing hour, recess, and recitations.

BURLESQUES

Two burlesques that never fail to call forth laughter are Scott's "Young Lochinvar" and Tennyson's "Lady Clare." Each of these is performed in pantomime while the poems are read. Lochinvar rides a broomstick and gallops about with the greatest éclat. The pursuing relatives of the bride sit astride the same variety of steed. If Lochinvar is a small person and the "Fair Ellen" very large, a more absurd effect can be obtained. In "Lady Clare" the "lily-white doe" is some adult covered with a sheet, and "Alice," the nurse, is funnier if a very short person. Lord Ronald's castle can be cut from pasteboard.

A COUNTRY CIRCUS

This can be held indoors or out-of-doors. The guests impersonate both the animals and the *freaks*. The Two-headed Girl, the Fat Girl, the Fortune-teller, the Snake Charmer, etc., may easily be arranged and serve as side shows. Do not forget the trained animals or the monkeys. Serve pink lemonade and peanuts.

THE REVERIES OF A BACHELOR

This is admirably suited to a girls' camp or house party. Some one girl dresses as a man and impersonates the "bachelor." He sits in a big armchair beside a lamp or open fire. Before him is a curtain which parts as the following dreams, or reveries, pass his vision:

The Athletic Girl
The Burma Girl
The Old-fashioned Girl
The Sailor Girl
The Aëro Girl
The Auto Girl
The American Girl
The Ballet Girl
The Nurse
The Irish Girl
The Indian Girl
The Japanese Girl
The Society Girl
The Dutch Girl
The French Girl
The Bride

A GAME OF NATIONS

Make up a list, including the following, and give a copy to each guest, omitting the answers, but leaving space for writing them in:

	Explanation
The nation for teachers	
The nation from which all things start	Germination
The nation for pupils	Subordination
The nation for actors	Impersonation
The nation for theological students	Ordination
The nation for a political candidate	Nomination
The nation for an unpopular official	Resignation
The nation for pests	Extermination
The nation for evil-doers	Condemnation
The nation desired by monopolies	Combination
The nation for achievement	Determination
The nation for students	Examination

This party may be further elaborated by calling it "A Pageant of Nations" and asking each guest to come in some national costume.

A MUSICAL ROMANCE

The "Musical Romance" provides a pleasant entertainment for an evening. Give to each guest a score card with the numbered questions written upon it. As the numbers are called someone plays upon the piano, the music giving the answer to the question. As soon as the air is played the guests must write opposite the question the musical answer.

1. Who was the hero?
   Ben Bolt.
2. What was his native state?
   Maryland, my Maryland.
3. On what river did he live?
   The Swanee River.
4. What was his college?
   Fair Harvard.
5. Who was his sweetheart?
   Annie Rooney.
6. Where was she brought up?
   Way Down South in Dixie.
7. Who was her Irish grandfather?
   McGinty.
8. Where did they first meet?
   Coming Through the Rye.
9. When did he propose to her?
   In the Gloaming.
10. Where were they sitting?
    On the Banks of the Wabash.
11. What did he say?
    Oh, Promise Me.
12. What was her answer?
    I'd Leave My Happy Home For You.
13. On what day and hour were they married?
    St. Patrick's Day in the Morning.
14. Who were her bridesmaids?
    Mary and Martha.
15. The best man was an army officer of what name?
    Captain Jinks.
16. How did they take their wedding trip?
    On a Bicycle Built For Two.
17. What was his pet name for her?
    My Darling Clementine.
18. Where did they live?
    In My Old Kentucky Home.

AN ART EXHIBIT

Around the room may be placed the following "Art Exhibit," each object having its number. The guests are given a written list of *pictures* to be searched out, and must write beside the name the correct number of the *picture*. At the expiration of a given length of time the name of the pictures with the correct number of each may be read and a prize awarded to the guest having the highest score.

Links of mystery	Sausages
Gems of the Emerald Isle	Potatoes
The birthplace of Burns	Two flatirons
A view of Long Branch	A long twig
A drive through the wood	A nail driven through a board
Tropical fruit	Calendar (dates)
Red-skins	Red apples
A messenger	One cent
A tight squeeze	A potato-masher
The four seasons	Salt, pepper, mustard, vinegar
Something to adore	Key
The old organ-blower	Bandanna handkerchief
A swimming match	Match floating in a dish of water
Our mother	Earth
The tax on tea	Some tacks on top of some dry tea
Companions of the bath	Soap and sponge
Music in the air	Music books suspended
Peace-makers	Scissors
Bosom friends	Neckties

A TEA PARTY

Invite your friends to a tea party. This tea party may either be in the evening and be preceded by a simple supper, or may be an afternoon tea party for older girls. After the guests assemble each one is given a card with the following list written upon it. In writing

the lists the answers should, of course, be omitted.

VARIOUS BLENDS OF TEA

The tea of ready wit	Repartee
The tea of the enthusiast	Devotee
The tea of heirs	Legatee
The tea of confidence	Trustee
The tea of reliable merchants	Guarantee
The tea of the petitioner	Entreaty
The tea of international negotiations	Treaty
The tea of temperance	Sobriety
The tea of the religious	Piety
The tea of the proud	Haughty
The tea of the meek	Humility
The tea of the saving and economical	Thrifty
The tea of the worried	Anxiety
The tea of the cunning	Crafty
The tea of many flavors	Variety
The tea of the speeding motorist	Velocity
The tea of famine	Scarcity
The tea of the gymnast	Elasticity
The tea of the lively	Vivacity
Three Republican teas	Liberty, Equality, Fraternity
The tea of moist, damp weather	Humidity
The tea of the eccentric	Oddity
The tea of the hostess	Hospitality
The tea of Homer, Milton and Shakespeare	Immortality
The tea of the foolish	Absurdity
The tea of the genius	Celebrity

Within a given length of time the answers may be read and the guests may check those answers which are correct. If the party is one entirely of girls, prizes such as teacups or a Japanese teapot may be given. The person having the smallest score might be given a dolls' tea set.

THE CAN FACTORY

This game will serve for an evening's entertainment for young people or grown-ups. The verses can be written on a folder, or on sheets of paper, and on the outside in fancy lettering "The Can Factory" may be printed. Leave a tiny space for the correct answer to each of the verses; these answers are to be omitted from the folders and filled in by the guests. Prizes may be awarded to those persons having the greatest number of correct answers. If prizes are used, have them take the form of something in a can — a jar of figs, a glass jar containing sticks of candy, etc. The guest having the smallest score might be given a can of corn or something of the sort.

1

Though this can is a can,
I am sure you'll agree
The can is thus called
Because it holds tea. (*Canister.*)

2

This long, narrow can,
Holds so precious a stock
That often you'll find
It has more than one lock. (*Canteen.*)

3

This can is a can
Which delights you and me;
It always is open,
Above-board, and free. (*Candor.*)

4

A most wicked can,
Although safe from police!
Should you look for its heart
You will find it in Greece. (*Candle.*)

5

Where breezes blow and billows roll,
With swelling form and manner proud,
This can in triumph rides the waves —
The sailor's living, and his shroud. (*Canvas.*)

6

Here is a can
Which — bear in mind —
Lives on others
Of its kind. (*Cannibal.*)

7

They say empty cans
Will produce the most noise;
But this can, if filled,
Will astonish the boys. (*Cannon.*)

8

The waltz, or the fugue, or the bold martial strain —
Each one his pet music indorses;
But for those who prefer oratorio style
This can sweetest music discourses. (*Cantata.*)

9

Most cans are hardly fit to eat,
But you'll find this one nice and sweet. (*Candy.*)

10

Now who would elect in a can to reside?
Yet this as a shelter is known far and wide. (*Canopy.*)

11

A can of most sagacious mind
'T is frugal, prudent, shrewd, you'll find. (*Canny.*)

12

That a horse should use cans
Is quite strange, I must say;
Yet if pressed to take one
He 'd not utter a nay. (*Canter.*)

13

To put poems in cans
We are seldom inclined;
Yet cans of this sort
In some poems you'll find. (*Canto.*)

14

In tubs and in bowls
Some have ventured from land,
And in cans of this kind
Too — so I understand. (*Canoe.*)

15

Now here is a can that is yellow and round,
But it can't be much prized since it grows on the ground.
(*Cantaloupe.*)

From these lists you can get ideas of similar games which you can work up for yourself. A set of cities — "vivacity," "veracity," "duplicity," "publicity," "reciprocity," etc. — is good; also a group of Kates whom you know: "supplicate," "duplicate," "extricate," and the like.

GUESSING GAMES

THROWING LIGHT

A person chosen to be "It" is sent from the room and during his absence those remaining select some word with several meanings. A word such as steel (steal) is a good one. After the word is selected the absent one is recalled and is seated in a chair before the other persons. He asks no questions; instead those who know the word begin to talk with each other and the one who is "It" listens. The conversation may be something like this: "*It* is very heavy and is more used than almost any other manufacture. But [shifting to the second meaning] *it* is so wicked! People are put into prison if caught doing *it*." Although the aim of the game is to "throw light," care must be taken not to throw too much light at the first and thus make the task of guessing too easy. Such words as bell (belle), fly, grate (great), etc., can be cleverly talked up and will make a great deal of fun.

THE KINGDOMS OF THE EARTH

This is but another name for the old and well-liked game of "Twenty Questions." A player is sent from the room and those left behind select an object which belongs either to the animal, vegetable, or mineral kingdom. The absent player then returns and tries to guess the object chosen by asking questions of the players in turn. To these questions the players can answer only "Yes" or "No."

CELEBRITIES

To play this game the name of some famous character is pinned upon the back of each of the guests. No person knows what his own name is. The players then walk about the room; when they meet they must glance at the name on the back of the person met and address him as if he were really the character named. If the King of England is encountered, an obeisance must be made and he must be addressed as "Your Majesty." There may then follow some conversation as to the affairs of state. At the same time the King addresses the person talking with him as if he were Ruskin, President Wilson, Roosevelt, Columbus, or whatever his name indicates. The point of the game is to guess who you are.

DUMB CRAMBO

This game is a simpler form of charades. The players are divided into two "camps," and one side go out while the other select a word. Some word rhyming with the word chosen is then told the absent side and they return to the room and proceed to act out the word they think the correct one. All the acting must be done in pantomime. The side looking on must guess the word being acted, and tell the actors whether they are right or wrong. If the correct

word is *light*, they may tell the absent players that the word selected rhymes with *bright*. The actors on the other side will then, perhaps, return and act out the words *fright*, *plight*, *might*, or *bite*. To each of these incorrect guesses the side giving the word must say: "It is not *fright*," "It is not *plight*," etc. When the correct word is acted they announce: "It is *light*." As soon as the word is correctly acted the opposing side must go from the room and a word must be given to them. If they are unable to think of the word and act it out, they may give it up but must be punished for their failure by acting other words until they act one successfully.

CHARADES

To act out the separate syllables of long words and then act out the entire word never ceases to delight those who are fond of "dressing up" and planning pantomimes. Such words as "Artificial" (*art*, *tea*, *fish*, *all*) lend themselves readily to amusing acting, and provide a pleasing entertainment for an evening. [For a list of good words and suggestions, see Volume X, page 216.]

ACTING ADVERBS

To play this game some one player goes out of the room, and then those who remain select an adverb such as *softly*, *quietly*, *laughingly*, etc. When this adverb is chosen the person is called back and proceeds to question the players in turn. When the players answer the questions they must answer them in a manner indicating the adverb they have selected. If the word taken was *softly*, each player must respond to the question in a lowered tone of voice; if *quietly*, by sitting very still and answering gently; if *laughingly*, he must laugh as he frames his reply. If the acting is well done the game makes a great deal of fun.

IMITATION GAMES

THE MANDARIN OF JAPAN

To play this game the guests sit about in a circle. Some person who knows the game says to his right-hand neighbor: "The mandarin of Japan is dead." The person addressed asks: "How did he die?" "By doing so!" replies the first speaker. At the same time he nods his head slowly back and forth. The second player then repeats to *his* right-hand neighbor: "The mandarin of Japan is dead." The same question is asked and the same motion is made by the second player. We now have two persons nodding. This dialogue continues until all the players are nodding. By this time the player who started the game is reached and he not only continues to nod his head but at the question, "How did he die?" he adds another motion, such as stamping his foot or waving his hand. The game goes on in this way until all the players are making as many motions at once as they are able. No player is to laugh. The game must be very solemnly played to be amusing. Forfeits may be given those who give way to smiles or laughter.

MY SHADOW

A single player stands in the center of a large ring. Rhythmic piano music is played. The person in the ring moves quickly across the floor and standing opposite one of those upon the ring makes some motion in time with the piano music. Instantly the "Shadow," or person before whom he is standing, must imitate him perfectly. If he fails to do so he must take the place of the one standing in the center. If he does imitate the movement promptly the person in the center turns abruptly to another player upon the outer ring. The unexpectedness and speed of the motions is what creates the fun of the game.

AS I WAS GOING DOWN THE STREET

The players stand in a circle and the one who is "It" goes round the ring singing:

"As I was going down the street
I saw the people walking;
And every time a friend they 'd meet
'T is thus they all were *talking*.
They talked just so!
They talked just so!
And every time a friend they'd meet
'T is thus they all were talking."

During the first four lines of the song the player must approach someone upon the ring, and when he reaches the words, "They talked just so!" the person before whom he is standing must do whatever the song says. If the song says the people were *talking*, he must *talk* until the singer finishes the song. At the end of the song he must take his place in front of the first player, and the two must march round the ring and do as before; but this time a different activity is put into the song. Instead of *talking*, the people may be bowing, skating, writing, skipping, hopping, etc. The game continues until all the players are marching about the room in a long, single line.

THE SEASONS

All the players stand in a circle, with one, chosen to be "It," standing in the center of the ring. Music with a marked rhythm is played upon a piano and the person who is "It" beckons to someone standing upon the circle and at the same time cries the name of one of the seasons: *Spring*, *Summer*, *Autumn*, or *Winter*. Immediately the person summoned into the ring must imitate some activity belonging to the season mentioned. If "Summer" is called, he may fan himself or pretend to be pitching hay. Those on the circle must guess what he is doing. "Spring" may be represented by planting seeds, spinning tops, playing marbles, etc.; "Winter" by skating or coasting motions, or movements indicating cold weather. "Autumn" can be shown by the raking of leaves, etc. There must be no delay in showing the activity when the player is called. Everyone must be alert. Forfeits may be given those who are unprepared.

DRAWING GAMES

HISTORIC EVENTS

When the guests have assembled and are seated, each person is given a number card with some historic event written upon it (such as "The Battle of Bunker Hill," "The Landing of the Pilgrims," "The Capture of André," "Pocahontas Saving the Life of Captain John Smith," etc.). The guests are also given a pad and pencil apiece. Each guest must draw a picture of the scene given him and number it. After a specified time other numbered cards are given out and the pictures are passed to the right. Each guest fills in on his card opposite the corresponding number what he thinks the pictures passed him represent. At the end of the game the correct names are given and much merriment ensues.

HEADS, BODIES, AND HEELS

Each guest draws upon a piece of paper a head, then folds this under, leaving marks where the body is to be joined on. All these slips are passed to the right and the bodies are then joined on where the marks indicate. The papers then pass once more to the right, and feet are put on at the place indicated by the previous player. The drawings may then be unfolded and some amusing results will be found.

THE BARNYARD

Each guest is given a numbered card with the name of some animal written upon it. He is then given another piece of paper and on it must draw the animal given him. *During the drawing he must keep his eyes tightly closed.* The pictures are then put up around the room and the guests all tell what they think they are.

CONUNDRUM GAME

Write the name of a person on a card and pass card to the left; write the name of an object on a card and pass to the right. In this way each person will have two cards which he must combine in a conundrum: "Why is X—— like a fan?" (or whatever object has been given him). The answer he must write himself — "Because she is such a breezy person," etc.

AUTOGRAPHS

Each guest is given a card and at the blowing of a whistle writes his name with his eyes shut. At the second blowing of the whistle everyone must stop at once. The best signature wins a prize.

"DRESS UP" PARTIES

A GHOST WALK

This is simply the old-fashioned sheet-and-pillow-case party, under another name. The invitations may be fantastically decorated with skulls, cross-bones, or black cats.

A CHILDREN'S PARTY

Each guest comes dressed as a four-year-old child. After all have arrived, they are seated in a kindergarten ring and sing the songs and finger-plays. Children's games follow. Refreshments of stick candy, animal crackers, tiny cakes, or ice cream may be served. After supper each "child" is given a paper cap and there is a fancy march in the caps and costumes.

AN OLD-FASHIONED PARTY

The guests, in old-fashioned costume, sit down to an old-time supper. In the center of the table is a large silver caster filled with cruets. Steel knives and forks are provided and all the china is of ancient design. Candlelight is the only illumination. The supper may consist of beans, brown bread, cold ham, honey (in small sauce-dishes), rolls, pie, doughnuts, and apples. All the food is put on the table at the same time. The parlors may be decorated with vases of wallflowers, tea roses, or other old garden blossoms. In place of bonbons, sugared flag-root, colt's-foot, lovage, or peppermints may be provided.

A DICKENS PARTY

Each guest comes dressed to impersonate some character in Dickens' books. Paul Dombey, Little Nell, Old Scrooge, Oliver Twist, Bill Sikes, the Doll's Dressmaker, Mr. Micawber, and Uriah Heep are good parts to take.

A MOTHER GOOSE PARTY

The guests come in Mother Goose costume and prepared to sing or act out their particular rhyme.

GAMES OF THE SENSES

HEARING GAMES

Magic Music. — Some one player is sent from the room; afterward an object is hidden. The player is then recalled and is guided to the hidden object by means of listening to piano music. This music is loud when the player is near the object, and soft when he is at a distance from it. Another entertaining way to play the same game is to choose some activity for the player sent from the room to act out. Instead of searching for a hidden object the player must perhaps sing, whistle, run, jump, or do some simple thing decided upon by those remaining in the room. He is guided to the correct activity by loud or soft music of the piano.

The Bell-ringer. — The players form a large ring by joining hands. Afterward some one player is blindfolded and placed in the center of the ring. This done, a small bell is given a second player and he enters the circle, ringing his bell as he moves about. The blindfolded player, guided by the sound of the bell, must catch the bell-ringer, who then takes his place as blindman.

Blind Tom. — This game is the well-known "Blindman's Buff." A blindfolded player, armed with a cane, stands in the center of a ring. The other players, who have joined hands, move around him until he taps his cane upon the floor. They must then stand perfectly still so that "Blind Tom" may point his cane at one of them. When he does, the player indicated must say "Good morning, Blind Tom." Blind Tom has the privilege of addressing five questions to the person at whom he is pointing. Each question must be answered, and if the blindman guesses the name of the person to whom he is talking the victim must take his place and become Blind Tom.

The Whispering Game. — To play this game successfully the players must keep very quiet. Some one of them takes his place in the center of the large circle and whispers a question to any player upon the ring. The answer to the question must be whispered back to the person standing in the middle of the circle. If the player upon the ring cannot understand the

question and answer it intelligently he must take the place of the questioner. There is no blindfolding in this game; it is simply to test the acuteness of the ear.

SEEING GAMES

Gossip. — Some one person stands for a moment in the center of the room and the other players scrutinize him carefully. He is then sent outside and one of those remaining is asked to mention some fact describing the absent one. This description must be repeated by the person just beside the first player, and to it he must add one more attribute. Thus the story travels on, each person repeating all the previous facts and adding one more to the description. When a player is found who can add nothing to the story he must recall the absent player and become the person to be described. This game is also an excellent memory test.

Observation. — Upon a table or tray a number of objects are spread and covered. At a given signal the objects are uncovered and the players are allowed to file past them, or stand and look intently at them for a specified number of seconds. The players must then return to their seats and upon a card must write the names of as many of the objects as they can recall. This is a game for remembering as well as seeing.

Lip Reading. — The players sit in a circle about some chosen player. This central player then asks questions of those in the circle; these questions, however, are neither spoken aloud nor whispered but are merely framed by the lips. The players must watch intently and see if they can read the lips of the central questioner. A failure to read the lips correctly is punished by putting the unsuccessful person in the place of the questioner.

A TASTING GAME

A player is blindfolded and several things with distinctive flavors are put upon his tongue. As he tastes these he must tell what they are. Such things as peppermint, clove, cinnamon, wintergreen, orange juice, etc., are the most successful ones to use.

GAMES OF TOUCH

A single player stands in the center of the ring and puts his hands behind him. Some object which all the other players see but which he cannot is then placed in his hands. He must feel this object carefully and tell what it is.

Various other objects are then given him. As soon as he fails to name an object given him he must return to the ring and some other person must take his place. The player naming correctly the greatest number of objects may be given a prize.

A tray of objects of various kinds is placed before a blindfolded player and he is allowed to feel carefully of all the things on the tray. He is then led back to his seat, the bandage is removed from his eyes, and he must write upon a card the names of as many of the objects as he was able to distinguish. This game is not unlike the observation game, but in this instance the sense of touch instead of sight helps the player to name the objects.

SMELLING GAMES

The smelling games are played in the same way as is the tasting game. Either extracts or flowers can be used.

MEMORY GAMES

Both the observation and the gossip games are capital memory games. Another which is great fun is called "The Wanderer." For this game all the players must be alert, because not a word can be spoken. The first player rises and, moving softly, touches some object in the room. He then takes his seat. As soon as he is seated the next player rises, and touches the object already touched and one more; the next player touches the two previous objects and adds another. The objects must be touched in the correct order. Forfeits may be given those failing in the contest and a prize awarded the person who is able to recall the longest list.

My Ship's Going to China. — The players sit in a circle and some one player says to his neighbor, "My ship's going to China. What will you send?" The player addressed names some object, and then repeats the question to the

person sitting beside him. This person must repeat the object already named and add one more. Thus the list continues to grow. Those players who fail to repeat the list correctly drop out of the game until only two players remain. These two go on with the contest until the winner is found. This winner may be given something which was brought back from China — a fan, a cup and saucer, or a toy of some sort.

Many other memory games modeled after this one will suggest themselves or can easily be worked out.

Going to War. — This game is most successful when a large group of persons is present. A player is chosen and beckons to one person after another until he has formed them in a long line, where they stand shoulder to shoulder as if facing an officer at dress parade. The players are allowed a second or two to glance up and down the line and see the position of each person in it. Then the "captain" claps his hands, and at this signal those in the line scatter. He then calls on someone else to be captain and the person chosen must reconstruct the line, placing each person in the precise position occupied in the beginning, and putting in his own place the person who was previously the captain. Any failure to get the correct order is punishable by a forfeit.

BEAN BAG RACES

(1) Any even number of persons may play this game. Two long, separate lines of an equal number of persons are formed, one person standing behind the other as if to march. The first player in each line is then given a bean bag. At the blowing of a whistle (or some other signal) the front players run entirely round their lines and back to their places, quickly giving the bean bag on their return to the player standing next in the line. This player runs in turn and comes back to his place, giving the bean bag to the player behind him. The race continues until the last player is reached. After he has circled the line and regained his place, he holds up the bean bag and the whistle is instantly blown. Whichever side finishes with the blowing of the whistle is the winner.

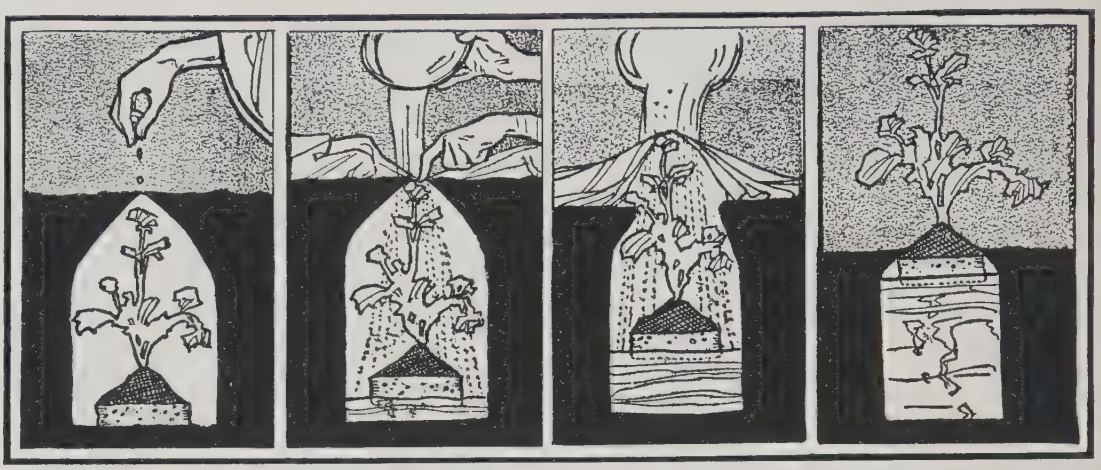
(2) A different sort of bean bag race may be played by forming in the same way in two long lines and letting the front players, at the blowing of the whistle, pass the bean bag back over their heads to the player behind them, who in turn passes it back. When the end player is reached the bean bag is passed forward until it reaches the front player, when the whistle is blown. In this game the players must not turn their heads or bodies, but must look straight before them or the fun of the game will be spoiled.

(3) Still another bean bag race may be given by having two lines of six or eight bean bags on the floor. At the end of each of these lines is a chair in which a player is seated. At the blowing of a whistle the players each run to the bean bag at the farthest end of their line and bringing it lay it in the chair, and go back for the one next farthest away. Whichever player gets all his bean bags in the chair first wins the race. The bean bags must be laid carefully in the chair — not tossed or thrown. In case a bag slips from the chair it must be picked up by the player before he can be allowed to run for the next.

CLAPPING RACE

This game may be played indoors or outdoors. The players form a circle by taking hold of hands. On the outside of this ring is an extra player who is "It." This player runs round the outside of the circle and touching some one player on the back continues on his way round the ring. The instant a person is touched he must start and run in the opposite direction to that of the player already running. When the two meet they must come to a dead stop, stand facing each other, and clap three times slowly and distinctly. They may then pass and continue their race until one of them reaches the vacant space where the person who was touched was standing. Whichever player reaches this space first steps quickly into the gap, closing the ring by taking the hands of the persons each side of him. The player on the outside must then run as before, touching another person.

No matter how fast the two opponents are running they must stop entirely when they meet, and the clapping must be three claps with a deliberate pause after each stroke. Unless this is insisted upon, the point of the game will be lost.



A HINDU TRICK (*See page 294*)

Planting a seed over a secret hole in the ground. Breaking in the top and pouring water, Which causes the cork to float and forces up the plant To the surface of the ground, where it appears when the cloth is removed.

PARLOR MAGIC

GYPSIES and magicians are interesting people. We like to watch them because they do strange things and because their ways are not our ways. But I propose to take you into the brotherhood and make you all able to understand the mysteries of the trade. We won't talk of gypsies much, but of magicians a good deal. We'll lift the flap of the tent where the tricks are performed and sit staring at disappearing boys, vanishing cards, and rabbits drawn from empty silk hats; then we'll go behind the scenes and learn how the tricks are accomplished. No magician would allow us this privilege without some sign to show that we share his fondness for mysteries. So here at the beginning we stop and repeat very solemnly, "Hocus-pocus, rigmarole — Presto, change!" Now we can enter the tent.

THE MAGICIAN'S TENT

As soon as we are inside, we have left the everyday world where everything is orderly, and have entered a world where everything is topsy-turvy. What do we see? There is a platform on which stands a man in evening dress. He takes a card in his hand, makes a motion, and the card disappears. Then he reaches up into the air and lo, there is the card at his finger-tips! He shows us an empty box, puts a small boy in the box, closes it, cries "Presto, change!" and when the box is opened the boy is gone, though the box has been in sight all the time. We begin to feel puzzled. Next the man of mystery borrows a hat from a fat man in the front row, puts it on the table, throws a cloth over it, and there, when he takes the cloth away, is a rosebush all in bloom. Then the magician takes out the rosebush, tears the hat to pieces while we all laugh at the fat man in the front row, and finally puts the pieces in a hat-box, fires a revolver, and presto, there is the fat man's hat, safe and sound! The magician bows and goes out, amid applause.

Slipping up to the magician's private entrance now that the performance is over, we will scratch three times on the canvas. This takes the place of knocking. The magician sticks out his head. "Rum fum boozalum!" we say in chorus, and he immediately lets us in. It is surprising how much like an ordinary man he looks, from his shiny patent-leather shoes even to the small bald spot on the top of his head. And this is he who whispers to the spirits and they obey him; this is he who goes snacks

with Mephisto, according to report; this is the man who reads the future and in general defies the laws of the universe. Here he stands before us, with ordinary patent-leather shoes such as anybody can buy for four dollars, and an ordinary bald spot such as even the barbers have. Yet we have seen this man do wonderful things. What is the explanation?

THE SECRETS OF THE TRADE

"What's the matter?" asks the magician, noticing our astonishment. "Did you expect to smell sulphur when you got close to me? Do you think I really pray to Mephisto night and morning, as I said I did when I was doing my tricks? Why, quite among ourselves as friends, I don't mind telling you that that is all 'patter,' as we say in my business."

"But what is 'patter'?" we ask.

"Patter," says he, "is talk — that's all, just talk. And we use it to make the audience laugh or feel spooky, or anything, so long as they don't watch our hands too closely."

"Watch your hands? Why, what have spirits and devils and mystery got to do with watching your hands?"

"My dear boys and girls," replies the great magician, "once on a time, Abraham Lincoln watched a magician who had a mechanical figure of painted metal and wood which would play chess against anyone in the audience, picking up the chessmen in its metal fingers and moving them just as if it had brains and were not really made all of iron and wood and paint. The magician simply shoved this figure out on the stage and left it to play the game of chess itself. Lincoln watched it awhile, and then he said, 'There 's a man inside.' Now, my dear boys and girls, I don't mind telling you that there is a man inside, so to speak, in every trick we magicians do. There are no spirits or devils who help us, and we ourselves are the 'men inside.' We make our living by fooling people, and making people believe we are not like other men, but really we are just the same. Anybody can do the tricks we do if he only knows how."

And in the following pages you may read what the great magician said about his tricks, in a book which he wrote to explain them.

THE KINDS OF TRICKS

There are in one sense a good many hundred kinds of tricks, but one can see readily enough that all these really belong to two or three big groups. First of all there are the tricks which are done by skillful use of the hands, fingers, arms, legs, and head. Since the hands are most useful, such tricks are called "sleight of hand." An example of this would be the familiar trick of "disappearing" a card or coin, which is done solely by skill of hand. Then there are the mechanical tricks, which are done by some kind of mechanical device and demand almost no skill in the performance except ability to talk smoothly and divert attention. The tricks where women or boys are shut up in cabinets and made to disappear from them are of this sort. The skill is all in the construction of the cabinet and not in the performer.

Most of the stage tricks belong to one or the other of these two groups. But in addition there are numerical tricks, thought-reading tricks, and so forth.

THE MAGICIAN'S OUTFIT

In the usual outfit of the magician, several stock articles or stock devices are always to be found. For disappearing tricks or producing tricks he has trap-doors in tables or in chairs or even in the floor; he has pockets in his clothes and he has *servettes*, or baskets, hanging, out of sight, on the backs of chairs, or other pieces of furniture. For some tricks he depends on confederates, that is, men in his employ who assist him secretly. A good many "illusion" tricks — like the one where a man's head appears to be separated from his body — depend on the use of mirrors and curtains; so these objects also may be said to belong in a magician's outfit. Strings, wires, and threads are very common assistants, largely because they are easily concealed. But anything the magician can devise he will use. Lately electricity and electro-magnets have been added to the outfit of the performer for some excellent tricks. These are the chief objects which one may suspect a magician is using when one sees a puzzling performance.

"THE HAND IS QUICKER THAN THE EYE"

Magicians often use the phrase, "The hand is quicker than the eye," to explain their tricks to an audience; but it is not true. They use the phrase, just as they use their talk about spirits and the secret forces of nature, for the purpose of misleading the audience and keeping its attention away from the real explanation of the feats performed. Usually when a magician says the hand is quicker than the eye you may be sure that the trick is already done, however much he may pretend to do afterward.

Instead of relying on quickness, magicians rely on doing their sleight-of-hand tricks when the audience have their eyes turned aside for a moment. For example, I remember one performance where ink was to be changed into water right in front of the audience. The ink was in a glass bowl set in plain sight on the stage. Just as the performer was about to make the ink change, the orchestra began a lively tune; the performer looked down at them in apparent astonishment and began to dance. Of course, we all looked at him; and when we looked back at the bowl, the ink was changed to water. The music and the dance were simple schemes for getting the eyes of the audience off the bowl. Now in this case the audience knew immediately that it had been fooled into looking away, but usually the magician diverts attention so skillfully that no one realizes he is doing it. He usually does it by a glance of the eye, a gesture, or by speaking to someone. Any of these things will draw attention away for just long enough to permit a dexterous movement which does the trick.

THE SLEIGHTS OF HAND

Now that we have a general idea of the means taken by a performer of tricks, let us see how a few tricks are done, in detail. I shall have to limit myself to a few, and I have chosen first to talk of card tricks done by skill of hand and fingers. Some of them are difficult and require long practice, but none of them is beyond the reach of anyone who has a little patience; and at any rate, whether you wish to practice the tricks yourself or not, you will like to have inside information about them. There are, then, three important "sleights" which every conjurer knows — the pass, the force, and the palm.

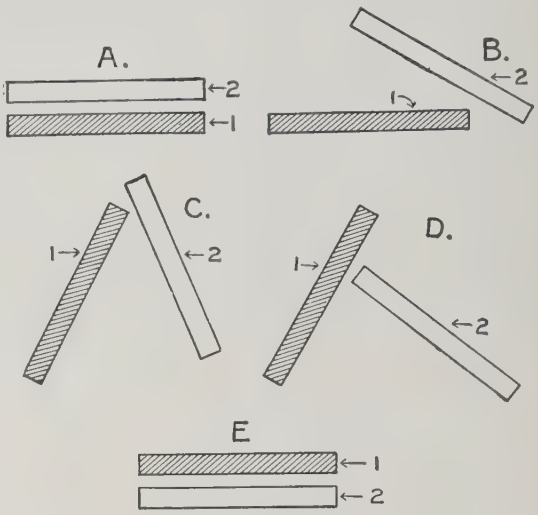


DIAGRAM FOR THE PASS

THE PASS WITH TWO HANDS

Suppose you take a pack of thirty cards and hold it in front of your body, in your left hand, so that your thumb will be on top of the cards, your palm under them, and your fingers curled around the pack. Now slip your little finger into the middle of the pack, dividing it into two packs. Next place your right hand on top of the cards, and with the fingers of this hand try to draw away the lower of the two packs, sidewise, toward the left. When you have done so, place the lower pack on top of the other cards, which have remained in your left hand. This is a crude form of the pass. Its object is, you see, to change the position of the cards. If you go through the motions described above, you will find that the card which was on the top when you started and the card which was on the bottom when you started will be together in the middle of the pack when you have finished the motions.

MAKING THESE MOVEMENTS INVISIBLE

But you will at once observe that anybody who was watching you could see that you

had changed the cards. So, in order to do tricks, you must in some way learn to make this pass invisible, or nearly so. The following pictures and description will show how this is done. First take the pack of thirty cards (I say thirty because a full pack of fifty-two cards is hard to manage) in your left hand, just as before. Then slip the little finger into the pack, just as before. This position is shown in Fig. 1. Now place the right hand over the pack, as shown in Fig. 2, and take hold of the lower pack (that is, of the cards below the little finger of the left hand) with the fingers and thumb of the right hand. You will now find that you can clip the upper pack between the little finger and the third finger of the left hand and tilt it up a little, so as to allow the lower pack to tilt upward also, until it passes by the edge of the upper pack. Then, by letting both packs fall together in the palm of the left hand, you will have the pass completed. This is a bit hard to understand, but a little study of the diagram, with the cards in your hand, will make it clear. The black part in A (No. 1) is the lower pack, under the little finger of the left hand when you begin the pass.

THE PASS, FIG. 1

The white part (No. 2) is the upper pack, above the little finger when you begin the pass. In B, the upper pack is being tilted up in the way I have described; in C, the lower pack has also been tilted up; in D, they have passed one another and are falling back into the palm

THE PASS, FIG. 2

of the left hand with the lower pack (No. 1) now on top; and in E we have their final position, the new position of the two packs. Practice this a few minutes a day, at first, very slowly until your fingers have got used to the movements and will go through them without your watching them. Then practice the pass in front of a mirror, watching the reflection of your hands, until you get skillful enough so that you can scarcely see the pass when you make it. Then you are ready for doing tricks.

THE WANDERING ACES

A good trick to start with, when you have learned the pass, is the following: First I shall describe the trick as the audience sees it and then explain it. The magician takes a pack of cards and goes through it till he has found the four aces. Then he takes the two black aces, spades and clubs, and places one of them on the top of the pack and one on the bottom. Next he places the two red aces, hearts and diamonds, in the middle of the pack. "Please watch me closely," he says to the audience, "and please remember that the black aces

are on the outside and the red aces are in the middle." He then blows on the cards, and so "Presto, change!" Now he hands the cards to someone in the audience to examine. The red aces will be found on the outside, one at the top and one at the bottom; the black aces will be found together in the middle.

The audience will be surprised, of course. "Now," says the performer, "I'll show you how it's done." He then asks someone in the audience to come and learn the trick, and, when someone volunteers, the performer again separates the four aces from the rest of the cards, and hands the aces to the person who has volunteered. He allows this person to place the black aces on the top and the bottom, and then cuts the pack in the middle and allows the volunteer to place the red aces there. Then he lays the whole pack on the table and says, "Just to show that we are honest, I'm going to allow my little pupil to cut the cards." The volunteer then cuts the cards. "Blow on them, just as I did," says the performer, and the volunteer blows on the cards. "Now," says the performer, "examine the cards and show the audience what you have done." When the volunteer examines the cards, he will find, much to his surprise and to the surprise of the audience, that the aces are all together somewhere in the pack.

HOW THE FIRST PART OF THE TRICK IS DONE

Now I will explain what the performer really does. First he actually places the black aces one at the top and one at the bottom of the pack. Then, with the two red aces lying on the table and the pack held in his left hand, he spreads out the pack like a fan, takes the red aces in his right hand, and slowly, so that everyone can see that they go in and also to give him time, he pushes the red aces into the midst of the pack as he holds it spread out. But while he is pushing in these two red aces the little finger of his left hand feels about underneath the pack until it works itself between those two red aces. There it stays, and when the performer closes up the fan of cards there are the cards with the little finger all in position to make the pass. He keeps talking to the audience and while he is talking he makes the pass. This brings the red aces to the outside, the black aces to the middle, and the trick is done. He should go on talking and gesturing for a few seconds so that the audience will not suspect just when he did the trick.

Much of the success in these tricks depends, as you see, on that fascinating "patter" of the magician, in which you must make yourself an adept.

HOW THE SECOND PART OF THE TRICK IS DONE

The second part of the trick is equally simple. The performer after he has obtained an "assistant" or "pupil" from the audience, as described above, and after he has separated the aces from the rest of the cards, holds out the pack in his left hand and allows his pupil to place a black ace upon the top; then the performer turns over the pack and allows the pupil to place the other black ace upon the bottom. At this point he must have ready a short bit of conversation. He may, for example, ask his pupil to remember that the black aces are on the outside; and may insist that the pupil announce this to the audience. This conversation merely gives the performer time to insert his little finger in the pack in a position for making the pass. But, instead of really making the pass, he merely takes the *lower* pack in his right hand (just as if he were making the pass) and lifts it out, allowing the *top* pack to fall into his left hand. If this be done skillfully, it will seem to the audience that the performer has merely cut the pack in the regular way. The performer, now holding half the cards in his left hand and half (originally the lower half) in his right, allows his pupil to place the two red aces upon the cards in his left hand, and places the other cards upon them immediately. It now seems to the audience that the pupil has put the black aces on the outside and the red aces in the middle. In reality they are now all together in the middle. The cards can now be put upon the table, cut once by the performer and once by his pupil; they can be blown upon and magical gestures made over them. When examined, they will show the four aces all together. This part of the trick is also hard to follow in a written description, but if you work through it slowly once or twice with the cards it will become clear.

THE PALM

Another sleight on which card manipulators depend is the *palm*. In this sleight the performer withdraws certain cards from the pack and holds them concealed in the palm of his hand. This is an easy knack to acquire, but is not so important as the pass. Just practice before a mirror holding a card in your palm

THE PALM

so that it cannot be seen when you are looking at the back of the hand.

THE FORCE

Another sleight is known as the *force*. This is the trick of making some person in the audience draw from the pack a certain card which the performer chooses in advance. The performer usually offers the pack to a person in the audience with the request that any card be drawn. As he holds out the pack he spreads the cards a bit, into a fan, and attempts to bring the desired card before the fingers of the person who is to draw a card just as that person reaches out his fingers to make the selection. It is surprising how easy it is to manage the cards in such a way that the person will seem to choose of his own free will, although really the performer has "forced" the card upon him merely by moving it into the right place at just the right time.

A CARD TRICK NOT DEMANDING SLEIGHT OF HAND

I cannot stop longer to describe other sleight-of-hand tricks, much as I should like to, or to give more complete accounts of these last two sleights. There are, however, plenty of books on magic and conjuring to which you can go after this introduction. Let me now describe a very good trick which you can perform without any sleight of hand whatsoever. Take ten cards — the ace, two, three, four, five, six, seven, eight, nine, and ten. Arrange them in order and then turn them face down on the table in a row. Let us suppose the ace is at your left and the ten at your right as you stand before the table. Now announce that you will leave the room and allow any person present to take as many cards as he chooses from the left end of the line and place them at the other end; then you will come back and pick up a card which has on it as many spots as the number of cards which were moved. If two cards were moved you will pick up the two spot; if four were moved you will pick up the four spot, and so forth.

THE WAY TO DO IT

To do this trick you have to know only one thing, namely, what card is at the left end of the line before you leave the room. Since you yourself arrange the cards in a row, this is very easy. Let us go through the trick. You arrange the cards as follows, and turn them face down on the table: Ace, two, three, four, five, six, seven, eight, nine, ten. Then you go out, and someone takes three cards from the left end and puts them at the right end of the line.

The lines of cards will now run: Four, five, six, seven, eight, nine, ten, ace, two, three. But of course, since they lie face down, no one will know just how they are arranged, unless he has seen them changed. You come back into the room and after a moment's hesitation pick up the last card at the right — the three spot. This shows the number of cards which had been moved.

THE TRICK CONTINUED

I said that all you have to know in this trick is the number of spots on the last card at the left. If the ace was at the left, as in the opening of the trick just described, you would count one from the right end of the line of cards when you came back into the room, and that card would have the proper number of spots on it. Having picked up the first card at the right end of the line — the three spot — you replace it at the right end of the line and offer to go out again. As the cards now stand you know the three is at the right end, and can readily figure back down the row and observe that the first card at the left end of the line must be the *four*. This you must remember. You go out; after the cards have been moved again, in the same way as before, you come back and pick up the *fourth* card from the right end of the line.

EXPLAINED IN DETAIL

The following explanation will show how this works. The cards are arranged as follows when you leave the room: Four, five, six, seven, eight, nine, ten, ace, two, three. Suppose that in your absence two cards are moved from the left end to the right end. The cards then stand: Six, seven, eight, nine, ten, ace, two, three, four, five. You come back and pick up the fourth card from the right end, namely, the two spot, indicating that two cards were moved. Then rapidly you figure out that the six spot must now be at the left end, and are ready to continue the trick, as long as the audience wishes. This trick, though simple, will prove quite baffling.

OTHER TRICKS OF MAGIC

But there are other tricks, more wonderful than these. It used to be thought that magicians could turn lead to gold, make an old man young again, fly through the air on a bronze horse, and talk with the devil. These are but stories. Whenever the most startling tricks are examined, they prove to be explainable by some simple means. For instance, there is the Hindu trick of planting a seed in the ground and having a plant grow from it in a few minutes. The performer usually does this trick in his own courtyard or in a field where he has taken quarters and has been located long enough to have prepared the ground for the sowing.

When his audience is assembled, the fakir, to use the Eastern word, drops a seed upon the ground, presses it in, and then spreads a cloth over the spot. After a few gestures he begins pouring water through the cloth, stopping to press upon the ground under the cloth with his fingers. After pouring a good quantity of water, he slowly lifts the cloth and reveals a plant growing from the mud. The picture at the head of this chapter (p. 288) will show how this is done.

HOW THE PLANT GROWS

Before the audience assembled, the fakir had dug a hole in the ground and in this had sunk a piece of cork on which a full-grown plant was fastened, as our picture shows. This hole he carefully bridged over with earth, so that it was invisible; and then, in doing this trick, he merely dropped the seed at the right place, broke away the earth with his fingers, working through the cloth, and poured in the water, also through the cloth. The water, making the cork float, brought the plant up through the hole, and there it stood in the mud, when the cloth was removed, just as if it were growing naturally.

VENTRILOQUISM

One of the most puzzling of entertainments, and one often connected with magic, is a display of ventriloquism, when a man makes a "dummy," or large doll, talk with him. The performer comes in and takes a seat on the platform, usually holding the dummy on his knee. Suddenly the dummy moves his head, looks around at the audience, opens his mouth and says, "Hello, people!" The performer shakes him and tells him that he is impolite, and then the dummy begs pardon, and he and the performer have a dialogue. It really looks and sounds as if a small man were seated on the performer's knee and talking. This is ventriloquism, one of the most famous and ancient of all the arts of the magician.

THE MEANING OF THE WORD

Ventriloquism is a word made up of two Latin words and means "belly-talk." This is due to the fact that people often think a ventriloquist, like a poet, is born and not made; that people think a ventriloquist is a man who from some freak of nature is born with a strange ability to talk in his throat or his lungs or his stomach. People often think, too, that a ventriloquist can "throw" his voice and make it seem to come from any place he wishes. I remember reading a story about a boy who had this ability and used to startle people at night by throwing his voice up a tree or into a graveyard, so that they thought someone was hidden there. But the story was not true. Anyone who knows anything at all about ventriloquism will tell you it is impossible to throw the voice in this way at all.

THE REAL EXPLANATION OF VENTRILOQUISM

We can get an idea of ventriloquism by thinking for a minute of how difficult it is sometimes to tell from what direction a sound comes. Often in a thunderstorm one person will think the crash comes from the south, another person from the north. This merely shows that we cannot always trust our ears. When several people are singing together, it is often difficult to decide which person sings alto and which soprano. Our ears are n't accurate enough to distinguish the voice of the singer on the right from that of the singer on the left. And yet we know they are both singing because we see their lips move. On just these little failings of the human ear to distinguish direction accurately all the art of ventriloquism rests.

THE "NEAR" VENTRILOQUIST

When the ventriloquist sits down with his dummy in his lap, he merely pulls a wire in the dummy's back, and that wire makes the dummy's mouth open as if he were speaking. At the same time, the ventriloquist speaks, without moving his lips at all, in a voice different from his natural voice, and immediately it seems to the audience as if the dummy were talking and the ventriloquist were merely listening to him. This is all the magic there is to the art. Of course, some people are better able to talk in a false voice than other people are, and they naturally find ventriloquism easy. Also, the ventriloquist must always be able to act as if he were really listening to the dummy. He must laugh at the dummy's jokes, even though he makes them all himself; and he must show in the expression of his face that he is listening to the dummy, just as he would show this in the expression of his face if he were actually talking to a live person.

THE DIFFICULTIES OF THE ART

So you can see that the art has some difficulties and requires some skill, though of a different sort from what people usually suppose. First you must practice before a mirror until you can make short speeches in a false voice without moving a muscle of the face. To do this, the lips must be open just a little, — an eighth of an inch is enough,— and must be kept unmoved in this position. If you try it, you will find that you can say most words pretty easily, but words beginning with *b*, *p*, or *m* are hard to say without closing the lips. For this reason the ventriloquist tries not to use words which have these letters in them, and usually is able to avoid them pretty easily, phrasing what he wishes to say in words which do not have *b* or *p* or *m* in them.

"FAR" VENTRILOQUISM

There is, however, a more difficult branch of the art, where the performer seems to make his voice come from up in the air, or from the distance behind him, or to one side, or out of a closed box. These feats are performed by "swallowing" the voice; that is to say, by learning to muffle the voice in the throat so that it will sound faint and blurred, just as a voice coming from a distance sounds. There is no magic about it; but a good deal of practice is necessary to get the trick of the "ventriloquial drone," as it is called. You will notice that a performer always tells the audience from what direction they may expect the voice to come, and he does this just because, unless the audience know in advance that the voice is

coming from up on the roof, it will not seem to come from the roof at all. This seems odd, but it is true.

WHAT THE VENTRILOQUIST CANNOT DO

Last of all, the ventriloquist does many very clever things, and is often able to talk like an Irishman, a German, an old woman with a squeaky voice, or a loud-talking negro; but there are some things which he cannot do. He cannot throw his voice at all; he only leads people to imagine they hear the voice from a distance or from the mouth of the dummy. And, as I have said, the reason he is able to do this is that our ears are not accurate in judging direction or distance and that we infer that a person cannot speak without moving his lips. Above all you will notice that a ventriloquist never throws his voice *toward* his audience, but always away from them or up in the air, or to the side. The reasons for this ought to be clear. The nearer a sound is to you the more accurately you are able to judge it. The performer cannot do ventriloquism at all unless he is eight or ten feet *at least* from the nearest person in his audience. But after I've stripped so much mystery away from the performer, let me just say again in closing that the ventriloquist is wonderfully clever, and that even after you know the real explanation of his performance, he will fool you. You will listen to him and be sure the dummy is talking.

THE GREAT MAGICIANS OF THE PAST

This trick of ventriloquism has long been known. But often the great magicians of years gone by, who were also sometimes the great scamps, relied on other means than true ventriloquism for making people hear strange sounds from unexpected places. For example, there was an old statue of huge size near ancient Thebes, called the vocal statue of Memnon. And the people believed that every morning, when the rays of the rising sun struck this statue, it spoke. Really, as you may suspect, now that you know something about magic, there was a "man inside." The man inside was in this case a priest, who spoke through something like a megaphone. The statue was hollow, and he was able to crawl up to the mouth of the image, and speak through it, every morning at sunrise. The great magicians of the past were often priests or religious officials. Among the American Indians, you remember, the medicine man was priest and magician and doctor, all in one.

CAGLIOSTRO

One of the most famous magicians of history was a man who called himself Cagliostro and pretended to be an Italian nobleman. He told people that he had all kinds of magic powers. He told them he knew the secrets of life and death, that he could turn men young, and make lead into gold. This, however, was only with the people of small intelligence, whom he robbed of their money by his lies. But in some way this man got to be received at royal courts and was looked up to by kings and queens as a wonderful person, until he was at last discovered to have had a hand in a famous theft— the theft of the diamond necklace, priceless in value, of the queen of France. You can read his story in a novel of Dumas, called "Memoirs of a Court Physician."

ROGER BACON

But before the time of Cagliostro, the man who invented gunpowder, Roger Bacon, came to be thought a great worker of wonders. His most famous device, according to the stories of the time, was a man's head formed out of bronze. The wonderful thing about this was that the head was able to answer questions, when Bacon talked to it. Probably the most famous of its sayings is, "Time is, time was, time will never be again." If Bacon actually did make a head out of bronze and made it talk, you and I know well enough that it was Bacon himself who did the real talking.

ROBERT HOUDIN

But in our own times almost, there lived a man who was wonderfully clever at conjuring. He was not a rascal at all, but a gentleman who earned his living by entertaining people — just as Barnum did with his circuses. Houdin invented many tricks which no one

could at all explain at first, though most of them have since been explained. For some tricks he relied on his wonderful memory. Some men, you know, have marvelous memories. One actor of a few years ago once committed to memory every word of a daily newspaper in a day's time. Most of us would not care to try this in a week. But, to come back to our subject, Houdin, the conjurer, had a habit of noticing every object in a shop-window as he walked by and then practicing making a list of the objects an hour afterward, until he got so expert that he could take in fifty or more objects at a single glance and remember them perfectly. This memory of his, trained in this way, furnished him opportunity for many startling tricks.

CONCLUSION

So you see magicians are not all mere rascals and deceivers, any more than they are friends of the Old Nick. Many of them are gentlemen who take magic as a trade and learn to mystify people as a means to a living. Don't believe that they have more than human power, for they have not. If you and I had glib tongues and flexible hands, we could say our "Presto, change, O Rum fum boozalum!" just as well as they.

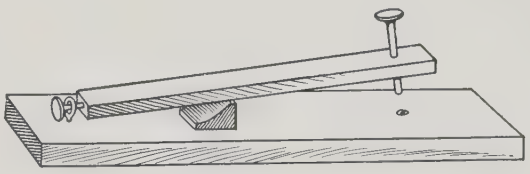
THE COLLECTOR AT HOME

HOW I MADE MY FIRST MICROSCOPE

[This practical article, which tells what one boy did who was bound to find out things, is written by Charles L. Bristol, Ph.D., Professor of Biology in the University of New York, who began his scientific studies in the simple way he describes.]

WHEN I was a lad of twelve I had a look through a microscope and saw some of the interesting sights of that wonderful instrument. I was filled with the desire to see more of them and searched around for the means of doing so. I could not buy a microscope, and the case seemed hopeless. But I read in a book that the lenses of the tube at the eye end of a spyglass, or terrestrial telescope, formed a microscope of low magnifying power which enlarged the image formed by the large lens —the objective—at the other end. I had a spyglass and at once I took the lens out of the spyglass and tried it on the hairs on the back of my hand. To my great delight I found that the book was right and that I had a microscope.

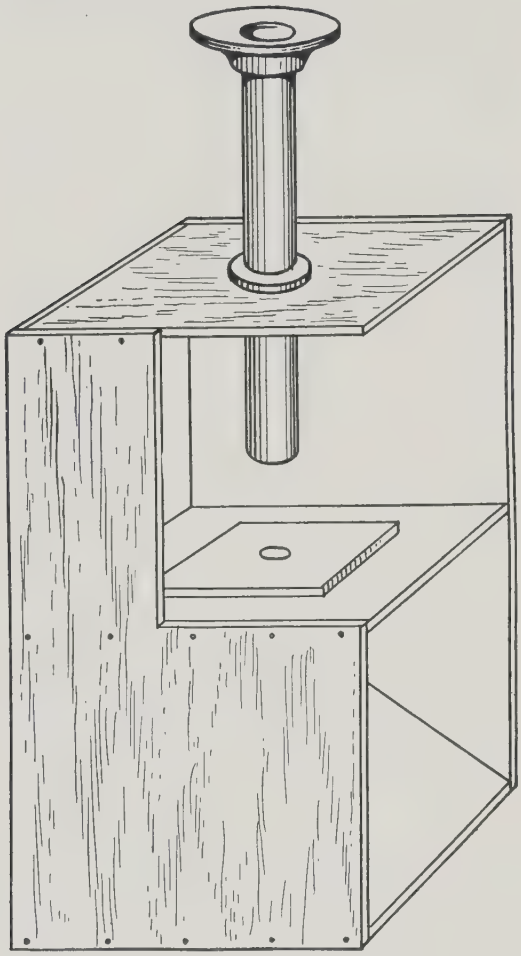
I could not hold it steady enough, however, to enable me to see plainly the fine details of an object, and I set about to devise a holder. My first attempt was made as follows: I took a piece of planed pine board two inches wide, an inch thick, and about a foot long. I bored through this, near the end and at right angles to the surface, a hole a very little larger than the brass tube of the eyepiece. I wrapped a strip of paper around the tube until it fitted snugly into the hole. Then I drove a nail in the other end of the board near the middle, leaving about an inch sticking out. I took another piece of board five or six inches wide



THE HOLDER, FIG. 1

and about eighteen inches long for a base. I screwed a screw-eye into the surface near the middle line and four or five inches from the end, so that the nail in the first piece would go through it. When the nail was put through the screw-eye it held that end of the holder fast but allowed it to move up and down. I made

a wedge-shaped piece to put under the holder, and by moving it backward and forward I could focus the eyepiece up and down until the object, which I laid under the end of the tube, showed sharply all of the fine details. When ready, the instrument looked like Fig. 1.



CIGAR BOX MICROSCOPE, FIG. 2

This proved to be a very good instrument for seeing opaque objects. It focused readily and I could put almost any-sized thing on the board. But it was not good for transparent objects, and when spring came, and brought with it a whole host of interesting living things which were more or less transparent, I wanted something better.

By chance, apparently (though, as a matter of fact, such things come because the boy or girl is looking for just such things and sees them) I came across a drawing which showed the principles of the construction of the microscope, and I gained a clear idea of what was needed. I made a good many attempts to accomplish my object before I succeeded, but that was good training, and every boy and man likes to do something new to him. I had a perfectly clear idea of what was wanted, and my task was to fix up something that would accomplish that result. More than half of the job lay in my knowing what I wanted to do.

Finally I succeeded in making a practical instrument in the way described below; and if you will study Fig. 2, you can, with a little help, make one for yourself, if you are lucky enough to have a spyglass. You will not injure the eyepiece, and you can put it back into the spyglass whenever you want to.

I procured two deep cigar boxes of the same size and carefully took out of one an end piece for the stage. I unscrewed the tube from the spyglass, leaving on it the screws and slide which fits on to the second joint. I made a hole in the exact center of one end of the box, and fitted it carefully with sandpaper wound around a round stick so that the screw of the sliding piece would screw into it fairly tight and square. This allowed me to focus easily and accurately.

I bored a half-inch hole in the center of the end piece which I took out of the other box, and then nailed the piece into the box about one inch lower than the lower end of the tube when it is pushed halfway down through the slide. This formed the support or stage for a piece of clear glass upon which I laid transparent objects so that the light shone through them and then through the microscope. In order to reflect the light to the object I fitted a piece of shiny white cardboard below the stage at an angle of forty-five degrees, and when the open side of the box was turned toward the light the object was illuminated and I could see the internal parts of many small plants and animals.

Later, for convenience, I cut out a little more than half of the right side of the box above the stage so that I could reach the object and move it around more easily.

MAKING AN HERBARIUM

(*By Edmund W. Sinnott, Ph.D., Harvard University*)

THE best and most pleasant way to become well acquainted with plants is to gather a collection of pressed and labeled specimens, or an herbarium, as it is called. Such a collection, however, should be made with some care and in obedience to a few accepted rules if it is to be of greatest service to its owner and of real scientific value.

WHAT TO COLLECT, AND HOW TO KEEP MATERIAL FRESH

Discretion must first be used in deciding what is to be collected. Specimens illustrating as many different parts of the plant and stages of its development as possible should be taken; but, since most of the features used in classifying plants are found in the flowers, it is of course very important to get specimens which are flowering fully. Almost always such pieces will illustrate the character of the stem and mature leaves also. Some plants, however (mostly trees), develop their flowers before the leaves are fully grown, and in such cases it is well to collect a flowering twig early in the season, and another later to show the mature leaves. It is often important to have material illustrating the ripe fruit also. Only twigs and small branches of woody plants are ordinarily collected, but with herbs the whole plant, root and all, should be pulled up and pressed. All material selected ought to be as free as possible from injuries and defects and to be a typical representative of its species.

To prevent specimens from wilting, a tin collecting box, which may be tightly closed, is most useful. A receptacle made especially for this work is known as a "vasculum." When this is not to be had, a convenient method of keeping material fresh is to wet each specimen thoroughly in clean water and then to wrap it in damp newspaper. A bundle of these packages may be wrapped up in waxed or oiled paper and kept from drying until ready to press. All soil before this should have been washed thoroughly from the root system.

PRESSING AND DRYING

To press and dry plants successfully requires some little skill. If the specimen is too long it may be folded back or broken so that it all can be placed on an ordinary herbarium sheet. Very thick parts, such as bulbs, rootstocks, or big heads of flowers may be trimmed off at the back to enter the press more readily, but it is always better to have everything in its natural condition if possible. Bulky fruits should be removed, labeled, and placed in boxes. When the specimen is ready to press it is first placed on a thin paper folder. One thickness of ordinary newspaper is as good as anything. Care should be taken to have the parts well arranged, the leaves spread out flat (some showing the upper and some the lower surface), and all the important things easily visible. All facts that are to be recorded about the plant, such as the date and place of collecting, with the kind of habitat (dry sand, peat bog, salt marsh, etc.), should either be written on this folder or on a label or slip of paper to be placed inside. If such a record is not kept with the material from the start it is apt to be lost or forgotten and the value of the specimen greatly reduced.

Ordinary blotting-paper may be used for drying, but regulation felt driers, purchased from any botanical supply company, are more satisfactory. The usual method of pressing consists in making a pile of alternating blotters and specimen-filled covers and then in placing a weighted board on top or strapping up the whole pile tightly between boards or stout covers. Several blotters between each folder are often better than one. The damp blotters should be replaced by thoroughly dried ones every day (better twice the first day) until the specimens are perfectly dry. Very rapid drying is often necessary if flower colors are to be well preserved, and this may be accomplished by heating the blotters just before they are put in, and by changing them frequently.

A simpler method of drying is by the use of heavy paper, corrugated on one side, and cut into pieces the size of the blotters. With these, a pile should be built up as follows: corrugated paper, blotter, specimen, blotter, etc. The pile should be strapped up tightly, by straps

at each end, between boards, or, better, latticed frames, and hung up in the sun or in a dry room. The blotters need not be changed, for they are dried by the air circulating through the spaces between the corrugations. With either method, it is always well to examine the specimens after a day's pressing to straighten out folded leaves and petals and to arrange parts in their permanent position.

MOUNTING

The dry specimen should finally be mounted on heavy white paper of the regulation size of eleven and one-half by sixteen and one-half inches. It may be attached either by numerous strips of surgeon's plaster or by gluing the whole specimen to the sheet. The glue may be applied easily by laying the plant on a glue-covered glass. Some parts, such as spruce needles or buttercup fruits, are apt to rattle off easily when dry, but samples of these may be placed in pockets pasted to a corner of the sheet. The label, with the collector's name and all facts recorded about the specimen, should be placed in the lower right-hand corner. The finished herbarium sheets may now be filed away, by species, genera, and families, each group being in a folder of stout paper.

Identification may be accomplished with the aid of any good book on the subject. Fresh material is usually easier to work with, but a well-made herbarium specimen is almost as good. It also has the great advantage of being a permanent and easily accessible record of the plant's characteristics.

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A STAMP COLLECTOR

This fanatical gentleman has made himself a suit of the world's postage stamps. Considering the use stamps are more usually put to, this might be called a coat of mail.

COLLECTING STAMPS

MOST boys have had a period of deep interest in this really fascinating pastime. There are a number of firms which make a business of supplying the stamps for these eager young collectors, and a paper is printed in their interest. It is only possible to offer a few hints in the space that we have at our disposal.

Keep your eyes open for the valuable stamps, that is, those that are so rare that the big collectors are willing to pay high prices for them. The most valuable of all is the One Penny Orange Mauritius of 1847. That is worth three thousand dollars. Early issues of the stamps of the Sandwich Islands are worth about the same amount. A United States ninety-cent stamp of 1851 is worth but little less, and the United States thirty-cent stamp of 1869 will bring two thousand dollars to its

Stamps by courtesy of New England Stamp Co., Boston

SOME CURIOUS STAMPS, NEW AND OLD

A special interest attaches for different reasons to each of the stamps shown above. The fact that No. 16, the two-penny "Post Office" Mauritius, brought over $7,000 when sold at auction, renders it particularly noteworthy. Another valuable stamp is No. 20, the Hawaiian "Missionary" stamp of 1851, which is worth $5,000. No 14, two-cent British Guiana, could be sold for $4,500 to $5,000. No. 12, Bavarian five-pfennig, is a new and successful experiment in stamp making, being the only stamp ever printed in mezzotint. No. 10, Greek two-lepta "Charity" stamp, has been issued in commemoration of the soldiers who fell in the war of 1912–13.

Taken in order, the stamps, with their denominations and dates of issue, are as follows: 1. Peru, 10-centavo, 1895; 2. Labuan, 4-cent, 1900; 3. India, half-anna, 1906; 4. Guatemala, 2-centavo, 1881; 5. Paraguay, 1-centavo, 1904; 6. Cuban special delivery, 1914; 7. North Borneo, 2-cent, 1900; 8. Japan, 4-sen, 1899: 9. "Post Office" Mauritius, 1-penny, 1847 (value, $150); 10. Greece, 2-lepta, 1914; 11. Ceylon, 9-penny, 1857 (value, $150); 12. Bavaria, 5-pfennig, 1914; 13. Norway, 10-öre, 1877; 14. British Guiana, 2-cent, 1850; 15. New Brunswick, 1-shilling, 1851 (value, $200); 16. "Post Office" Mauritius, 2-penny, 1847; 17. Barbados, 1-penny, 1892; 18. China, 1-cent, 1898; 19. Moldavia, 108-parale, 1854 (value, $200); 20. Hawaii, 2-cent, 1851; 21. Guatemala, 2-centavo, 1902.

fortunate possessor. Old United States local stamps are all of great value, as are also early Canadian local stamps.

King George of England is one of the most ardent stamp collectors in the world. He once paid eight thousand dollars for a stamp that he wanted very much.

In general, the value of a collection depends upon its completeness in some respect. Of course, it cannot be complete in all respects. Such a collection does not exist anywhere in the world. But you may have a complete collection of United States stamps issued in celebration of great anniversaries, or of British special issues, or of the stamps of some particular year, or era, as United States War Time stamps, or Colonial stamps. Such a collection always has value. And you never know when you may chance upon some particular stamp of very great value. Of these rare stamps, lists are published and may be obtained free of any stamp dealer.

The best advice that we can give to young collectors is to decide on some field that they feel that they can cover fairly well, and make a specialty of it. You will always find that there is much to learn about it. But do not carelessly throw away stamps other than those of your particular hobby. They are valuable to you for exchange with other collectors, and at any time you may find among them a rare prize. Have two collections, a general collection and your own particular collection. A very interesting hobby is the stamps issued by Napoleon. Another interesting field is tax stamps, that is, stamps issued for the purpose of exacting a tax or special revenue. It was such a stamp, you know, that caused the War of the Revolution.

An American boy will naturally desire American collections, and that is a good field, as it covers some of the rarest and costliest of stamps, which, none the less, may lie hidden in some old attic on long-forgotten letters.

If you are making such a collection, let all your friends know about it. If you know of some old family who have lived in the same house for many years, try to interest them to help you. They may have tucked away in an attic just the stamp that will give distinction to your collection.

Always mount your stamps neatly with bits of paper attached to the top edge, forming a hinge. This avoids the necessity of pasting the whole stamp down, and thus risking spoiling it. A thin gummed paper is useful for this purpose. Be careful not to soil or tear them. There are some stamps of which poor copies are quite common, but good, clean copies very rare. So the value of the stamp may depend upon its condition.

Lastly, learn something of the geography and history of the countries whose stamps you collect. In this way you will be deriving an additional benefit from your pleasure.

THE KNIGHTS OF KING ARTHUR

(By Frank Lincoln Masseck, King of the Order)

MORE than twenty years ago a group of lads in a Rhode Island town began to play a game that has given delight to many thousands of boys in all parts of the world. These boys had read in school, and in books obtained from the public library, some of the fascinating tales of King Arthur and his Round Table, which have been so thoroughly enjoyed by Anglo-Saxon boys for many generations. One of their best friends, Rev. William Byron Forbush, the pastor of the Congregational church, suggested that they have a Round Table of their own, each lad taking the name of his favorite Knight, with a King Arthur to preside and a Merlin to guide and help.

The boys entered into the plan with enthusiasm, and soon found that they had something that would provide them with an unlimited amount of pleasure. They gathered all the stories of the Knights that they could find. Each learned all that was known about his own heroic name. They arranged a Castle

hall in which they met. They made a Round Table about which they held meetings, with a throne for the King. They copied old costumes for regalia. They had wassail. It was not long

THRONE OF CASTLE SHALOTT, CAMBRIDGE. THE OLDEST LIVING CASTLE OF KNIGHTS OF KING ARTHUR

before every boy in town wanted to become a member, and in a very few months similar groups were formed in other towns, near and far, until to-day there are several thousand Castles, as each group is called, scattered all over the land.

In the course of the years many features have been devised to make the game more interesting and attractive. When a boy first joins he is called a Page, and he promises simply to serve and to cultivate the virtues of a Page, which are Honor, Loyalty, and Obedience. There is an initiation in which these virtues are impressed upon him.

After some weeks of preparation he may become an Esquire, with the obligation to cultivate the further virtues of Self-control, Courtesy, Courage, and Obedience to Conscience. This rank also has an interesting service of initiation.

Still later an Esquire may advance to the rank of Knighthood, with emphasis upon the virtues of Reverence, Fidelity, and Service, and the obligation to serve Christ and the Church. Thus gradually the lad learns the finest characteristics and qualities of a Christian Knight.

There are other ranks, like that of Baron, Viscount, Prince, which may be earned through service. But most appreciated of all the honors that may come to a member of the Order is that of wearing the title of Galahad, the purest and best of all the Knights. In every Castle hall there is a Siege Perilous, a seat covered in some distinctive way, which is reserved for a member who has performed some heroic deed, the worth of which is recognized by his fellows. At the next meeting of the Castle he is seated with appropriate ceremony, receives the distinctive rank of Baronet, and for that one meeting is hailed as Sir Galahad.

For the Conclaves, as the formal meetings are called, there is a most pleasing ritual, with songs, and an order of business. After the business is over games and sports may be enjoyed, or drills of any kind may be introduced. A spread is always welcomed. Indeed, in addition to the things that are distinctive with this Order, the boys may do anything that any other group can do. One group of boys built and equipped a gymnasium; another erected a "Palace of Industry," in which they made furniture for their hall and homes, boats, camping outfits, and a lot of things which boys like to make. In one town a public library stands as a monument to the interest of the K. O. K. A.

In almost every state there is a summer camp where the Knights meet for outdoor life. Under the trees and on the water they emulate the exploits of Robin Hood and his merry band.

Neighboring Castles meet together in district and state Conclaves, bringing together large numbers of the finest lads to be found.

Most of the Castles have been organized in connection with churches, with the pastors or Sunday School teachers acting as Merlins, although many have been organized in public

schools and social settlements of all kinds, wherever a group of boys is found. Any boy may organize a Castle with his friends and playmates, but always they must find some adult, either a man or a woman, to act as Merlin. Some of the best Castles have had a lady for Merlin.

CASTLE HANDIWORK

It is very interesting to visit the Castles and to see the things the boys have made. One Castle obtained a large round table in white wood, and divided the surface into segments, one for each member. Then they devised coats-of-arms, and each boy burned his own into his place, some of them being beautifully colored, and when the whole was finished the table was varnished. Another Castle has the walls emblazoned with shields made, carved, and decorated by the Knights. Another has a complete outfit of spears, the heads of which have been carved by the boys. Many Castles have elaborate thrones for their kings, the product of their own handiwork.

In several places the churches have set apart rooms which have been especially arranged for the meetings of the K. O. K. A. Some of these rooms are exceedingly beautiful, and represent the expenditure of considerable sums of money. One Y. M. C. A. has a room equipped as a memorial to a Knight who was drowned while in summer camp.

Dramatic entertainments have been given by many Castles. The Order has published several plays based upon the King Arthur stories which have been given over and over again. [See Volume V, "Stories and Plays of Knights and Yeomen," for material which will be useful in starting a King Arthur Castle.]

The Order appeals especially to boys between the ages of twelve and sixteen, although it sometimes includes others both older and younger. While the principles and methods of the Order are entirely open to the public, there is a certain element of secrecy in the various initiations and in the signs, grip, and password to make it attractive. Parents and teachers are always welcomed at the meetings, and everything that is done is open to adults at any time.

Full information concerning the Order may be obtained by addressing the Knights of King Arthur, Hopkinton, Mass.

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IN THE CASTLE HALL

While this is primarily a picture of the "Battle Meadow" at Concord, it is also a picture of trees and a beautiful lawn sheltered from the hot August sun. The value of a fine foreground is evident.

AMATEUR PHOTOGRAPHY

WHAT TO TAKE AND HOW TO TAKE IT

PHOTOGRAPHS are lots of fun to look at; and almost anyone's album of snapshots is worth spending an hour with. But if the album is one you have made yourself, out of your own snapshots, it is a permanent, delightful storehouse of pleasant recollections. Such an album will remind you of a hundred different interesting things: of pets and chums and famous places visited; of trees and meadows and the hay-wagon and the brindle calf and the sheep and all sorts of country scenes; of crowds and athletic meets and games; of groups of classmates, and houses, and dozens of other things that it is pleasant to remember.

The manufacturers and the dealers have made photography extremely easy, and very cheap as well. A dollar will get a reasonably good box camera; a few cents only is charged by professionals for the development of film-rolls, and three cents or so is all that is asked for separate prints. With no greater outlay than this, and with no special knowledge of the technique of photography, we can make lasting records of the friends and experiences and surroundings that have made up the parts of our lives that we remember best.

While the most inexperienced can take some sort of pictures, the more one learns and the more one practices the art of photography, the better and surer the results grow. Photography is really an art, and to get six excellent views by six snaps of the shutter requires knowledge and skill. The skill comes chiefly from one's own experience; the knowledge comes chiefly from the experience of others who have experimented and made themselves capable of advising us. You may find, if you care to, many long, learned books on this art, but they are not aimed at beginners and they make perplexing and difficult reading. In what follows I will try to tell as plainly as I can what the processes of photography are, and what are some of the "wrinkles" that help one to take good pictures.

A WORD OR TWO ABOUT CAMERAS

If a dollar will get a reasonably good camera, two dollars will get a better one, and five, ten, or fifteen dollars will get much better ones still. The better ones cost more because of their clearer, larger lenses, and because of their im-

This view of the famous Walden Pond, where Thoreau, a great American author, camped out for two years, shows what can be done by carefully choosing the point of view. A winter sunset.

proved shutters and folding attachments. Each owner will swear by his own camera, and believe that his is the best of lenses; so you will not be surprised if I say that I believe mine is about ideal. It folds into a compact shape that goes handily into a carrying-case; it has an admirable lens and shutter; it takes pictures 2½ inches by 3¼ inches, and it cost fifteen dollars. If this seems like a good deal of an investment, it must be remembered that the camera will last for ten years or more, and that every single picture taken will show the effects of the superior lens. In a lens you want sharpness, depth, and speed. That is, you want the lens to gather the millions of light rays that come to it, and redistribute them on the film without blurring; you want the lens to be in focus for objects twenty feet away and thirty feet away when you have the focus set at twenty-five; and you want the lens large enough to gather so much light that a very short exposure will be enough. To get these three qualities in a high degree, you have to pay the maker for his pains in devising and grinding the delicate bits of glass that make the lens, and there are many good arguments for paying well at the outset. And remember this about small cameras: if the lens is excellent, the negatives may be enlarged with most excellent results, and thus you are as well off as though you had a larger camera, while with a poor lens, enlarging is not practicable.

THE CHEMISTRY OF PICTURE-MAKING

It is sunlight that makes your pictures for you, and the photographic process is based on the fact that light brings about a quick change in the character of certain chemicals. You have noted how the sun gradually turns paper and cheeks brown, and some other things

These sunset clouds were snapped when the light was far too dim for any other kind of snapshot. Such a picture can be "enlarged" with admirable results.

Here is Walden Pond again. The point of view was chosen carefully.

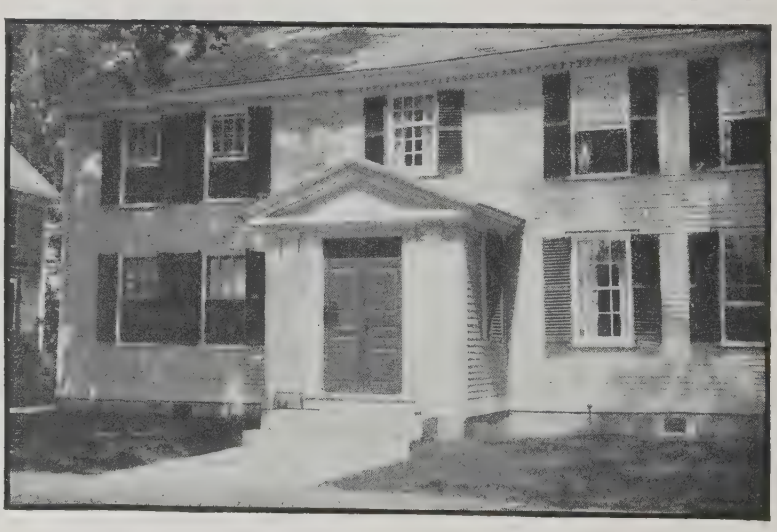
(transparent) negatives which result from the developing process. You buy a film of celluloid coated with silver salts; you roll the film into place in the absolutely dark insides of the camera; you let the shutter wink open for an instant, and the light-rays steal in and work their changes, touching some parts lightly, others heavily, others not at all. Then you pass the film through a bath of chemicals that supply oxygen, and the changed silver salts take up oxygen and turn black, with delicate graduations that correspond exquisitely with the strength of the rays that struck this part or that. You next pass the film through another chemical bath, that dissolves all the untouched, unchanged salts, but cannot affect the blackened parts; and the result is a film in which the lights and darks of nature are just reversed.

You then go through the process again. Only this time you use a coating of silver salts on paper instead of on celluloid, and you let the light shine on the paper through the negative. Developing turns the affected salts black, as before; but this time the lights and shades are where they "ought" to be, and you have a picture.

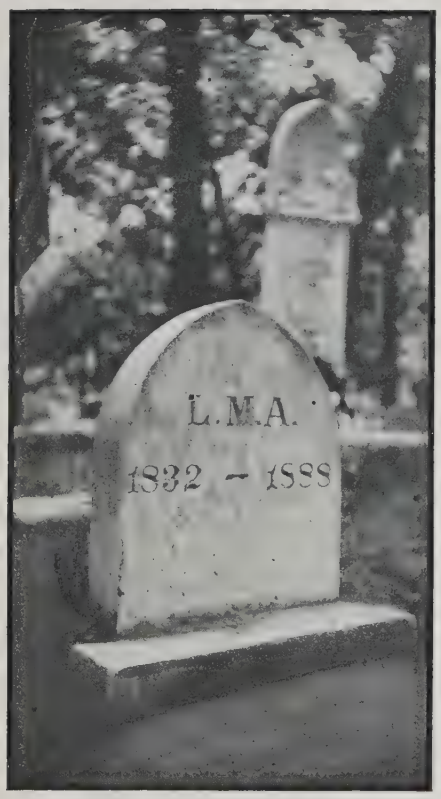
THE PRACTICAL SIDE OF THE PROCESS

The initial problem in actually taking pictures is to let the right amount of light strike the film. By means of the adjustable diaphragm

gray. On certain sensitive combinations of silver it has an instantaneous effect, though the effect in this case is not to make the silver salts lighter or darker, but to make them readier to combine with oxygen. Now oxide of silver, as they call the combination of these two substances, is nothing more than silver rust; and, as you may know from seeing the "rust" on neglected silverware, it is black. So you begin to see the secret of the black and white



A beautiful New England home as the camera saw it on a summer's day.

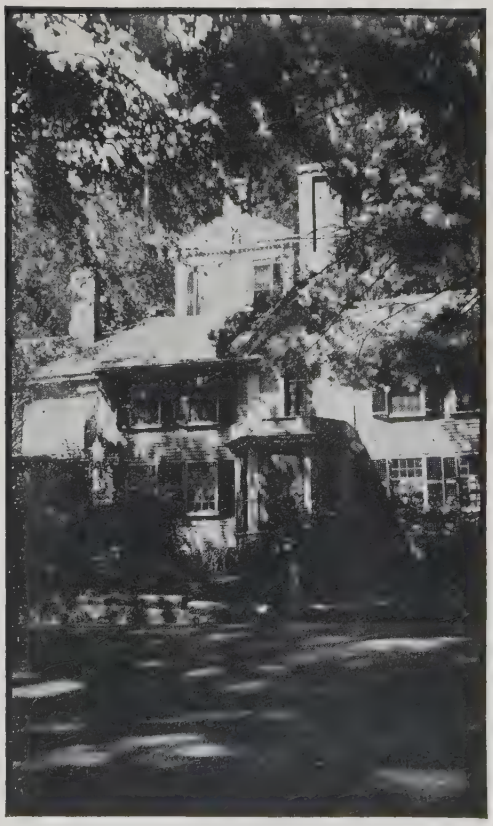


With the aid of a portrait attachment it was possible to get a close view of the little headstone at Louisa May Alcott's grave in Concord.

you can admit more or less light in a given exposure, and by making the exposure long or short you can gain additional control over the amount of light admitted. Study the book of instructions that accompanies your camera for advice about the exposure and the diaphragm to use for various conditions of light, indoors and out, and also about the hours of the day when outdoor snapshots may best be made. It is possible to modify the developer in such a way as to allow for over and under exposure; but you will unquestionably want to develop films "in the strip," and you will find it best to let the wrongly exposed view take the same treatment as the rest. Then, if there is anything in them at all, variations in the printing will largely correct the defects.

For an experiment in doing your own developing I should advise you to expose a six-view film, and leave it in the camera until you get to the dark room. Here the light should come only from a ruby lamp, and there should be set out in convenient places a tray of clean water, a tray of developer, a tray of hypo, and a large basin of water, the last preferably located beneath a faucet. Many persons buy the raw ingredients and mix their own developer. But I should advise you to go to a dealer whom you can trust and for your first work get tube-developer and package-hypo of whatever sort he will recommend. These you can mix with water according to directions, and for this mixing you will need an eight-ounce graduate — unless your mother will lend you her measuring cup, which contains just eight liquid ounces or one fourth of a quart, if it is of standard size.

With all but ruby light shut out, remove the film from the camera and detach the film from the paper. Have your hands extra clean for



A view of a house is often improved by a "frame" of foliage. This of Hawthorne's home in Concord is both a reminder and a beautiful picture in itself.

Two very unwilling targets for the snapshot.

this work, especially free from hypo or oil or grease; and do not touch the inside of the film, since finger-marks prevent the action of the developer on the spots touched, and show up distressingly in the negative. Pass the film three or four times through the first water, to take the stiffness out of it. Then, holding one end in each hand, run the film through the developer, from end to end and back again, over and over, taking particular pains at the start to get all of the film into the developer. If you run the film through the first time, leaving one edge out, that edge will lag behind the rest of the film throughout the rest of the development and there will be an unfortunate light streak on the negative. Such an accident is best prevented by running the film through the developer face down.

Keep the strip going through the chemical for about three minutes, or until the darkest parts of the views show pretty plainly on the back of the strip. Then run the strip through the basin of water to take off surplus developer, and then through the hypo until all the milky white appearance on the film has disappeared. After the first minute of hypoing, the door may be opened and the light turned up. When the hypoing is finished, cut the views apart and let them wash about in running water for a good quarter-hour, and then pin them by a corner to a wooden shelf and let them dry thoroughly. After they are dry they may be stowed away in whatever receptacle you have prepared for them. By all means have some systematic way of caring for them. I have found it convenient with my $2\frac{1}{2}$ by $4\frac{1}{4}$ films to take three-by-five library-index cards, or heavy paper cut to that size, and cut in them four slits into which the corners of a negative will fit. Then on the card I can write the name and date of the picture, and remarks about the exposure, time of day, and so on. I have all of my scores of negatives filed away in this fashion, and it is easy to get at any one of them.

PRINTING

I am taking it for granted that you want to make regular black and white prints on velox or cyko paper. Fairly satisfactory prints can be made on blue-print paper, which requires only a short exposure in the sunlight and then a washing in plain water; and there are some other papers of this simple sort. But for your best work you will want to use a developing paper. You will find the handling of it something like the handling of a film. The difference is that the coating of the paper is far less sensitive than that of the film, so that

This is one way to keep a sitter in focus, — though not the surest way to make her look amiable.

A FIRST ATTEMPT BETTER LUCK SUCCESS

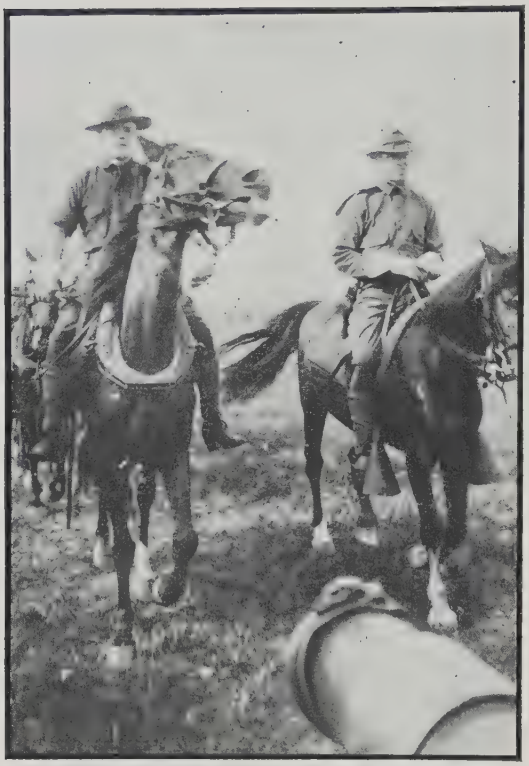
you will need to expose it — in the printing-frame, of course, and behind the negative — for from ten to forty seconds within a foot of a Welsbach burner or other strong light. And during the development a ruby light is unnecessary, it being a sufficient precaution simply to stand between the tray and the source of light. The chemicals are precisely those used in film-developing. The length of exposure has to be determined for your particular light by experiment. Work toward an exposure that will bring the picture to its full development — that is, to precisely the appearance you want the picture to have when it is finished — in about fifteen seconds. When the right shade has been reached, dip the print at once in water and then leave it in hypo for ten minutes. The hypo will make no visible difference in the print, but it will make it permanent just the same. Wash the prints as you would films, and lay them face down on cheesecloth to dry.

You will enjoy your photographs twice as much if they are well mounted in an album. I have found that a slight rim of paste along the very edge of a print will hold it down securely without causing it to curl.

THE MOST PROFITABLE SUBJECTS

Unless you have a shutter keyed up to an exposure of a thousandth of a second, and a lens so large that it will take in light enough in that small interval to make the picture, you'd better not try to take moving objects, for with less speed of lens and shutter the result will be a blur. An exposure of a hundredth of a

One of the three did n't mind being taken, but the others very evidently did.



This action picture was taken with an ordinary hand-camera, $\frac{1}{100}$ sec. exposure. It shows a sergeant and driver in the field artillery as they look to one riding on the gun ahead. The difficulty was to choose the precise moment for the snap.

second will answer for moving objects only if they are a very long way off, or else are moving directly toward or away from the camera.

There is no law, of course, to prevent anyone's snapping the shutter at almost anything; but about half the time the pictures so made prove disappointing.

Landscapes, for example, are extremely hard to "get." You look across a wide river, perhaps, and on the low opposite shore you see a very pretty white house with a flagpole and a bright American flag flying from it. You take a picture of what you see, and discover to your mortification that the shore has become in your little print a mere uninteresting streak, and the house a mere spot the size of a pinhead, with only an infinitesimal flag, and that without color. Your attention, you see, had gone straight to the house and flag when you were looking at the actual scene, and you had thought of nothing but that. The eye of your camera, on the other hand, had seen for the most part uninteresting water and uninteresting sky. The moral of this is plain. You must learn to see as the lens sees; you must consult the finder to discover whether the object you wish to take is important enough both in size and in its shadows and lights to be interesting *in the finder*. Unless you are pleased with the picture in the finder, you will probably not be pleased with the picture in the print.

People are first and last the most desirable subjects. If you have a tripod (the light metal-tube kind is the best) you can take five-second or ten-second exposures of friends sitting by the window. Or without such complications you can take most attractive outdoor pictures. In the direct sunlight people are usually squinting as they look at the camera;

"Peter" in mid-air is clear-cut because he was caught at the top of his jump, when for the $\frac{1}{100}$ part of a second he was not moving.

A mountain view across the lake.

consequently it is usually desirable to locate them so that the sun does not shine directly on them, but shines on neighboring objects and throws a mild but strong reflected light upon the face. Remember that the "sitter" is to look at the camera and not at your eyes; and remember that all parts of the sitter's body should be about the same distance from the camera. If a foot or hand is forward from the body, it will come out in the print very much larger than it should be. The lens will always distort objects in this way, and it will also catch the up-and-down lines of a high building in a strange way, making them come together too fast as they recede from the camera. So always face what you are taking as squarely as possible and as little as possible on the slant, and don't tip the camera up or down very much unless you purposely set out to get a queer effect.

LOOK OUT FOR CONTRASTS

Whether you are photographing a person, or a tree, or a building, or an animal, think of the *foreground* and of the *background*. Move about until you can get the object against something in contrast with it — the smoothness of a face against the roughness of a vine-covered wall, for instance, or a handsome dark pine tree against white clouds. And try to stand so that a natural frame will be formed for the object. Get a view of a mountain, for example, from beneath the boughs of a tree, or between two trees near at hand, so that the leaves will form a dark frame for the distant gray. These close objects "bring out the distance," and add very greatly to the charm of a picture.

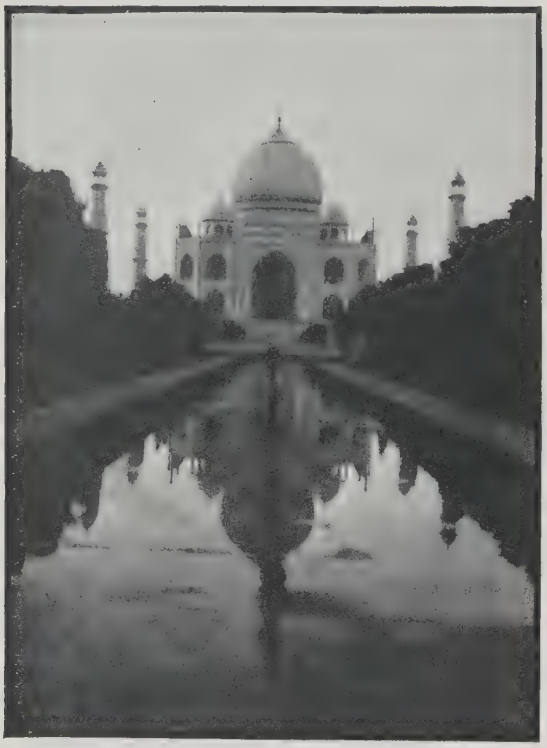
I have found it lots of fun to take snaps of animals. I don't mean wild animals, though surely it must be fascinating to photograph birds on the nest, and to make rabbits and woodchucks and deer take their own flashlight portraits by pushing against a string across the path. I mean by "animals" tame animals: cats, dogs, horses, hens — yes, even pigs. The excitement of the chase is to maneuver so that

Working together.

you are in focus just when puss is looking as you want her to. It took about fifteen minutes of patient angling to get the kitten on page 309 to look up with the remarkable expression of about-to-be-pettedness that she wears.

PATHS FOR THE AMBITIOUS

To learn to get lifelike, natural, unstrained portraits, to acquire an eye for "journalistic interest" in scenes, and an eye for pictorial beauty — these are ambitions that are always leading us on into the higher complications and



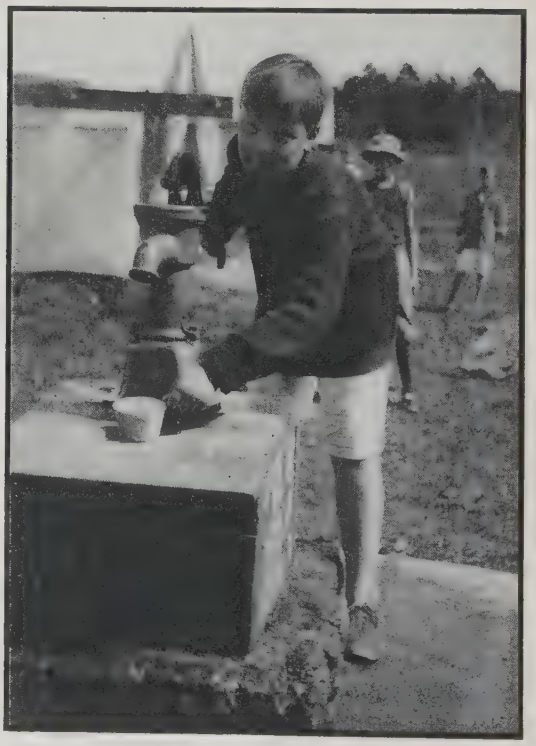
The Taj Mahal at sunset, as the hand-camera of a tourist caught it.

mysteries of photography. We want a portrait attachment to get larger pictures of small things; we want a ray filter for taking cloud pictures; by and by we want a full-fledged reporter's camera for taking aeroplanes and locomotives at full speed. Next we know, we want a telephoto lens for taking large-sized views of distant ships. Owning a camera is like owning an automobile. You see how much

Flowers taken by the use of a portrait attachment.

more you could do if you had a different or a larger one.

But cling to your small camera a long time. Add a tripod and a portrait attachment and a ray filter to your equipment and you will have an instrument whose possibilities it will take you years to exhaust — years of constant delight if you work intelligently and always with an eye to improvement.



A good, natural pose.

FUN AND WORK IN THE HOME GARDEN

HOW TO PLAN, PLANT, AND CARE FOR THE VEGETABLE AND THE FLOWER GARDEN

[This section on Gardening is written by Mr. F. F. Rockwell, an experienced gardener as well as writer, who brings practical advice and directions directly from his own gardens and fields. As editor of garden departments in periodicals and contributor to magazines, and as author of "Home Vegetable Gardening," "Gardening Indoors and Under Glass," etc., he is widely known as an expert.]

HAVE you ever had a garden in which you not only worked, but which you yourself planned from the beginning, bought the seeds for, took care of, and kept the profits from? If boys and girls only knew how much real fun and pleasure there is in gardening there would be no need of any other inducement to take it up, that is, in gardening for themselves; for work alone, where you have to use your hand and not your head, often becomes drudgery. But there is another reason too why wide-awake boys and girls should have gardens; in fact there are several reasons, which I mention because one of them may strike your particular case more fully than the others. First of all, as I have already said, there is the fun you will get out of it. If you once start a real garden of your own you will find it more interesting than anything else you ever did. You have probably noticed already that most of your other games and recreations gradually become monotonous and you get tired of them,—it is the same thing over and over again. This is never true of gardening, for every day there is something new and something different from what you did yesterday. Even the plants themselves are constantly changing and you will find yourself watching with more and more interest all the things you are going to get and how much they are going to produce.

But the question of fun is not the only one. You have got too big for that. Boys and girls who are almost young men and women should remember that the things they do now and the way they do them will have an influence on all the rest of their lives. Our foremost teachers are saying these days that boys and girls should begin to train for the things they are going to do when they are grown up, even before they leave high school. Probably at the circus sometimes you have seen Japanese jugglers or acrobats and have wondered how any people could attain the skill which they show. The secret of it is that they began to train for these things when they were hardly able to walk and talk. There will probably never be a time in your life when you will not find that your knowledge of gardening is a very good thing to have and one which you will always be in a position to use to some extent; that is, unless you expect to spend most of your life penned up in the city, and I do not know of any red-blooded boy or girl who is looking forward to such a life as that. It is a natural thing for

every healthy boy and girl and for every man and woman to want to have a little piece of ground of their own, even though it is no bigger than a back yard, and to grow things in it. But it is quite likely that you will find that you will want to make the growing of things your business in life instead of just a side line for pleasure. Probably you have heard or read of the "back to the land movement." This means that our cities and the businesses and professions in them are becoming so overcrowded that many people are finding that there is more money and more health and comfort to be had by going back to the land and growing or raising things. Farming and gardening used to be rather despised and looked down upon by men in the cities; but all that has changed, and now there are hundreds, yes, thousands of just such men who would give up everything for a chance to get back in the country; in fact hundreds *are* doing it; and hundreds more would if they knew anything about farming and gardening; but they hesitate to do it on account of their ignorance of these things.

And then there is another thing which will appeal to all ambitious boys and girls — the possibility of making some money now right at home. The boy or girl who thinks only of making and saving up money is simply laying up misery for himself or herself; but it is quite natural and quite commendable for every normal boy or girl to want to begin to earn something as soon as possible. If you want to put the same amount of time and energy into gardening as you would in magazine subscriptions, or in working in a store, or in selling soap during your vacation months, you can not only make just as much or more money, but you will get experience that will be worth infinitely more to you. Here is an absolutely true story of what two boys in Missouri did. They won many prizes at their local fair, besides a special prize offered by the biggest seedsman in the country, and as a result he wrote to them and got an account told in their own words of how they accomplished it. Here are a few sentences taken from their letter to him, which he published in pamphlet form for the benefit of other boys. Their names are Jay and "Bulldog" Knight. All the work in their garden, which covered over two acres, was done by hand except the plowing and harrowing; and, having no horse, they sold their stuff to their customers from wheelbarrows.

"The first week in March we made our hotbeds. Three of them, six by twenty-four feet, used eleven large loads of stable manure. We made our beds on top of the ground, as we have better success that way than we do with the pit plan, especially if a wet season. The bed No. 1 we planted in tomatoes, cabbage, peppers, cauliflower, and celery. The other two with onions, lettuce, and radishes.

"As soon as our ground was ready we planted our onions, radishes, lettuce, peas, beans, beets, early corn, and potatoes. Everything but the corn was planted in drills wide enough apart so that we could plant a later crop between the rows and still later pull up the first crop and replant again. With some of our smaller stuff we got three good crops from the same ground.

"Our main success in raising the goods was *constant* cultivation. Never stop working your ground, keep something growing on *all* of it *all* the time, but above all *work, work, work* the ground.

"Now the market end: Having no horse we peddled our stuff in a wheelbarrow (it is good shoulder and chest exercise and good for your wind, we find, in playing football this fall).

"We gathered our stuff in the evening, spread it on the grass in the shade, and bunched it in the morning. Make it as interesting as possible, sell 'direct to the consumer,' make your bunches larger than the market bunches — you can afford to, as you get all the profit; treat your trade as you like to be treated; always be pleasant, and occasionally throw in an extra bunch of something; be a jolly good fellow and make friends with the consumer, for the personal equation will have lots to do with getting the money.

"These gardens brought us over five hundred dollars, all a family of six persons ate, and we have about thirty dollars' worth of seed potatoes and other seed on hand. Out of nineteen entries at the County Fair we took twelve first and five second premiums. It is our third season. We have been our own bosses and made more money than we could have done holding down a job with the other fellow, and we are now cutting sods after school for our hotbeds next February.

"Thanking you for your inquiries, we are,

"Yours respectfully,

"The Knight Boys."

Making over five hundred dollars in a single vacation is doing pretty well. There is no reason why other boys cannot do as well if they will work just as conscientiously. Notice that this was their third season; they had kept at it for three years and the result of this experience was beginning to show in the amount of money they could make. In other words, they had gained experience which would be of

value to them all the rest of their lives. Also, they read everything they could find on the subject of gardening, and were careful to use the best methods of growing wherever they could find them.

But you may object that you have had no experience. Then the best thing you can do is to get it just as soon as you can. Begin it this year. Do not go into it on too big a scale at first. You will find more money in a small garden well kept than in a big one that gets away from you and grows up to weeds. Remember that one boy can easily plant a garden in the spring which will take ten to care for during the summer and fall. To be successful your gardening must be like a plant — let it start small and grow.

MAKING AND MANAGING A VEGETABLE GARDEN

The first season, however, you can have practically all the vegetables in your garden even though there is but a single row of some of them. Then another season you will know what sort to increase, and if you are growing any to sell, what sort seems to be the most in demand and what sort seems to pay best. This list will include beans, beets, carrots, corn, cucumbers, parsnips, spinach, potatoes, peas, lettuce, radishes, and turnips. Then, too, think of the watermelons and the muskmelons! It would be quite well worth a season's work to have all of those you could use even if you got little else.

Don't think, however, that all these good things are going to come without effort. You will have to plan your work, and take care of your garden thoroughly after it is planted. You must understand at the outset that you are undertaking a job which will require real work, but which will give you really substantial returns if you do that work conscientiously.

SELECTING THE GARDEN SITE

Let us suppose, then, that you decide to have a real garden this year, and that it is now early spring. We can follow the work through step by step, and if you will follow these suggestions and directions carefully I can guarantee that you will be satisfied with the results of your season's work. First of all, of course, comes the selection of a proper spot or "site" for your garden; and in making this there are a number of things you must look out for. If you can get hold of part of a piece of ground that is already being used for growing vegetables or crops successfully, and if this is within a convenient distance of your home, you need not look farther.

If you cannot find such a place it would be well for you to ask the assistance of someone who is familiar with gardening and ask his advice. The spot selected should be out of the shade and away from the reach of the roots of large trees; it should neither be in a hollow, where the ground is apt to stay wet, or on a high, dry slope, which will be likely to dry out too quickly in summer; and if it is protected on the north or northwest by a wall or building, or by sloping naturally to the south or southeast, it will be so much the better, as the cold, late winds will be cut off and your stuff will be several days earlier. The soil should be what is called a "friable loam," that is, neither very sandy nor wet and sticky.

Having selected such a spot for your garden, your next problem will be how to get it into good shape for planting. Even with good soil to start with, there are two other things which you must do before you can hope to have a successful garden. The first of these is to have it rich enough to grow big crops, and the second is to have it broken up and smoothed until it is nice, and deep, and mellow, what gardeners call "in good tilth." If you have gone far enough in your studies in school to have studied a little chemistry and physics, you will understand what I mean when I say that the first is a chemical condition and the second is a physical one; that is, the food which plants live and grow on in the soil consists of a number of chemical elements, of which *nitrogen*, *phosphoric acid*, and *potash* are the three most important. Learn these three things by heart, for you will come across them often in reading about gardening and the growing of crops. By the second, a good "physical" or "mechanical" condition, I mean that all lumps must be broken up into fine pieces, not only on the surface but below. If you leave the soil hard and lumpy the plant roots cannot make their way through it readily

and there will be numerous spaces or pockets filled with air, which will cause the soil to dry out quickly and become hard.

THE USE OF ENRICHERS AND FERTILIZERS

And now that you have some idea as to what condition the ground ought to be put in for planting, let us see how to actually get it into shape. The first step, of course, is to get it rich; and the most commonly used material for accomplishing this is barnyard manure. If you are going to buy this yourself, you can probably get it from some neighboring farmer; but see to it that he gives you that which is old and thoroughly rotted. You do not want manure that is lumpy and wet, or that is dried out and full of straw. For most of the garden vegetables ground that has been in use the year before will work up better than sod land, but the latter will do if none of the other is available. Spread the manure on as heavily as possible; you need have no fear of getting it too thick. Some gardeners put it on as thick as three inches all over their fields; but that requires a great many loads to the acre, probably more than you can get, to begin with, even for a small area.

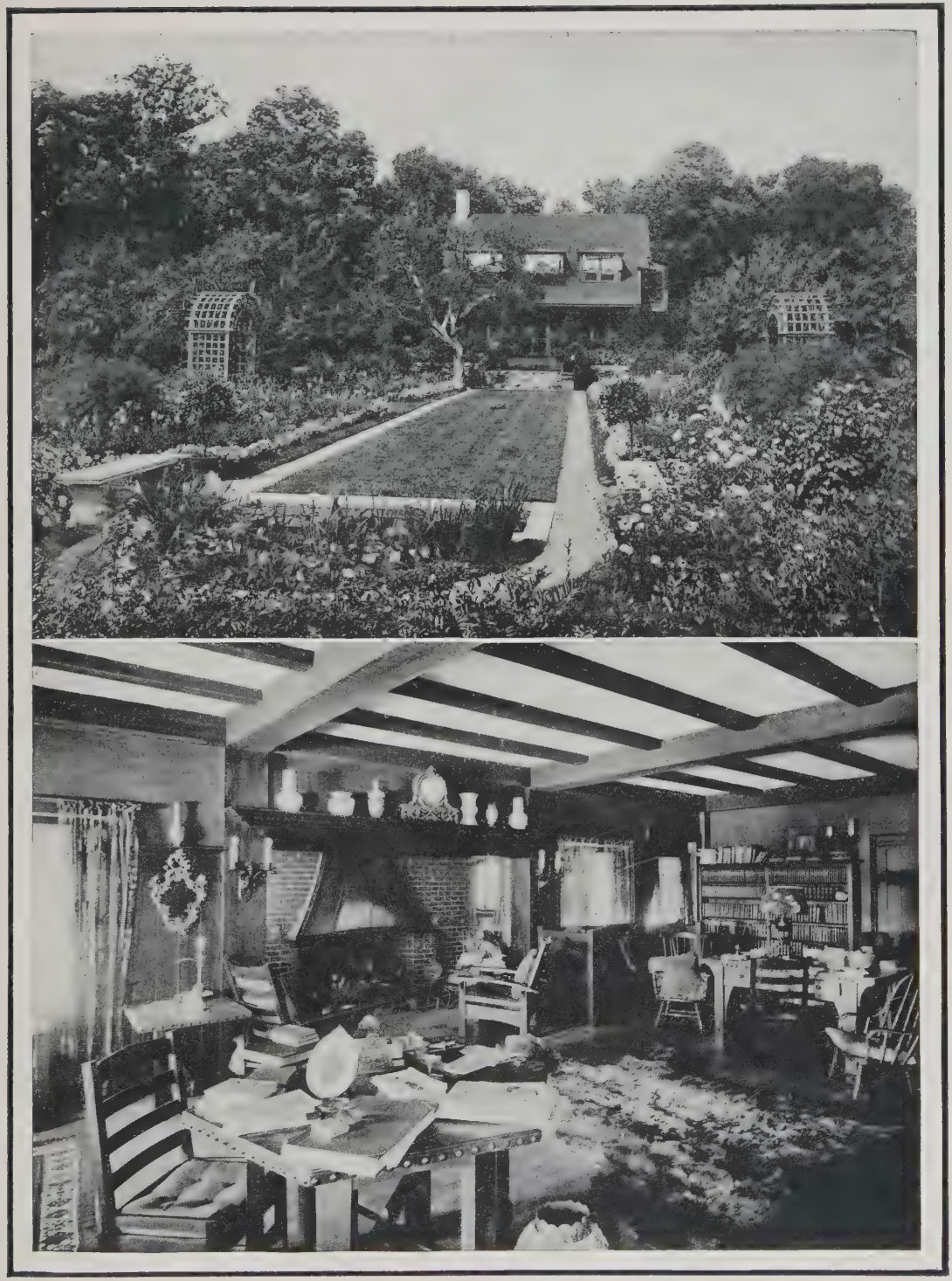
If your garden plot is a very small one it can be forked or spaded up by hand, especially if the ground is soft and mellow; but if it is at all possible you will have much better results by having it plowed. In either case, it should be turned over quite deeply—four inches at least—and if it is six or eight inches so much the better, provided you do not turn up on the surface any of the "sub-soil," or hard raw earth that lies below the surface layer and which is usually of a different color. Farm manure or trash or old weeds, if there are any, should be buried out of sight. Then on the surface of this fresh soil, before it has had a chance to become dry or lumpy, you should spread your fertilizer. For a patch of a quarter of an acre you should use from two to three hundred pounds if you have put on a coating of manure, and more than that, four or even five hundred, if you have not been able to get any manure. It is always cheapest in the end to use a "high grade fertilizer"; that is, one which has high percentages of nitrogen, phosphoric acid, and potash. The grade usually called "market garden brand," although it costs a little more per hundred pounds than the low grade kind, is the best to get. An analysis of four per cent nitrogen, eight per cent phosphoric acid, and eight or ten per cent potash, is a very good one. Remember that without rich soil you cannot grow big crops, and it will cost you just as much for seed and you will have to spend just as much work taking care of your stuff to get a small crop as a big one. Wood ashes and hen manure are also very good fertilizers and can be spread on after the sod is dug or plowed in the same way.

HARROWING AND RAKING

After the fertilizer is put on, the ground should be thoroughly harrowed, or gone over with an iron rake, if you cannot have it harrowed. There is an old farmer's saying "that a field well prepared is a crop half grown," and this is exactly true of the vegetable garden. In fact, I think that the mistake of having the ground only half prepared is the cause of more of the failures of people just beginning to garden than any other one thing. Even if you can have your ground thoroughly harrowed you should go over it again with an iron rake before you are going to plant, and not be content until you have made it almost as smooth and level as a table. Unless you do this you will find it very hard work to plant your seeds and they will not come up evenly. Furthermore, you will not be able to make that very important thing called a "soil mulch," which I shall have a little more to say about under the heading Cultivation. All this may seem like real labor, and in fact it is; but you may be cheered up by the fact that you will have to do it only once and that if you do it thoroughly it will lessen all your other work for the whole season.

HOW TO BUY SEEDS AND PLANTS

Good seeds are a vitally important starting point for a good garden; but with many vegetables even an expert cannot tell good seeds from bad seeds. Therefore the buyer of seeds, whether he is a boy with a quarter of an acre garden or a truck grower with dozens of acres,



A MODEL GARDEN AND A LIVING ROOM TO MATCH IT

can rely upon only one thing, the honesty of the seedsman with whom he deals. Let me give you a few words of advice based on my own experience in this matter. Do not rely for your supply of seeds upon the local hardware store or groceryman who displays a boxful of gaily lithographed packages outside of his door every spring when the days begin to warm up. Some of these seeds may be good, but some are bad, and some are old, and the number of varieties is limited. Send for two or three seed catalogues from firms that you have reason to believe are reliable (as you probably will know of someone who has used their seeds and can recommend them); and buy your seeds by mail. But let me put you on your guard against two or three things. I remember when I was a boy how I used to pore over the spring supply of seed catalogues and be quite carried away by the seedsman's super-enthusiastic descriptions of "new and rare varieties," which should have been called "rarely new varieties."

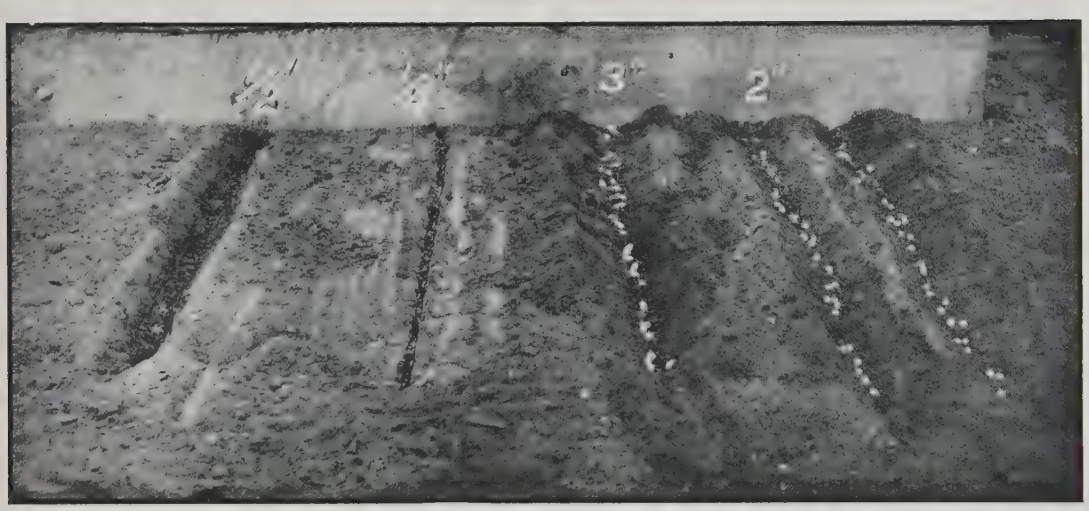
In the first place, stick in the main to standard, well-tried sorts such as you will find described and recommended in practically all the different catalogues you get. The new sorts, for which so many wonderful things are claimed, are, I am sorry to say, very frequently only the old sorts put out under new names, and the prices are always higher. Sometimes they are not as good as the best of the old sorts. Secondly, *do not try too many varieties*. Of course, you need more than one variety of some things — one sort of radish for spring and another sort for summer; early and late sorts of peas and corn, etc. But make them just as few as possible; and try new sorts by the packet first, until you are sure they are better than the ones you are using. In the third place, be careful not to buy more seed than you can use. It is very easy to put down on paper, in the excitement of ordering, two or three times as much as you can possibly find room for when it comes time to plant. You should measure off your garden plot very carefully, and then figure out accurately how many rows of things you will have room for. The table on page 333 will give you the distances between rows and the amount of seed required for fifty feet of row.

Besides the seeds it is necessary to buy, there are a number of things of which you will want to buy plants several weeks old, so that they will be ready for eating just that much sooner. Cabbage, cauliflower, beets, lettuce, tomatoes, peppers, and eggplant are all started early in this way. If you have had any experience in handling hotbeds or cold-frames, you can start your own plants; otherwise you had better depend at first on getting your supply of plants from some local florist or market-gardener who grows plants in the spring to sell. Directions for starting seeds and transplanting are given near the end of this section. You will not require a great many of any of these, as they are only for the very first crop, the others (with the exception of the last three vegetables named) coming along from seed sown outdoors. The first time you go to buy plants it will be well to take with you some friend who knows about gardening, so you will be sure to get good plants. The largest and greenest-looking are not always the best. You want to be sure to get plants which have been well "hardened off" by exposure to the outside air and wind and sun, and are of good stocky growth. Tall spindling plants are quite sure to give poor results, if they do not fail altogether.

WHAT, WHEN, AND HOW TO PLANT

Very often the beginner at gardening, even if he or she is a grown-up person, thinks that the planting of a garden is about all there is to it. They neglect the very important preparations for planting and forget the work that is to come after. After all I have been saying about preparation you will probably not make this mistake; but the task of proper planting is quite a complicated one, and you should study it very thoroughly before you begin, and then go as slowly and carefully as you can. Many of the details, such as dates, quantity of seed to use, depth to cover, and so forth, you can get quite readily from the planting table referred to; but that is only half of the art, and only practice and carefulness will make you perfect in the other half.

If you have had any botany among your studies at school you are already more or less familiar with the way in which seeds germinate,



DRILLS FOR PLANTING

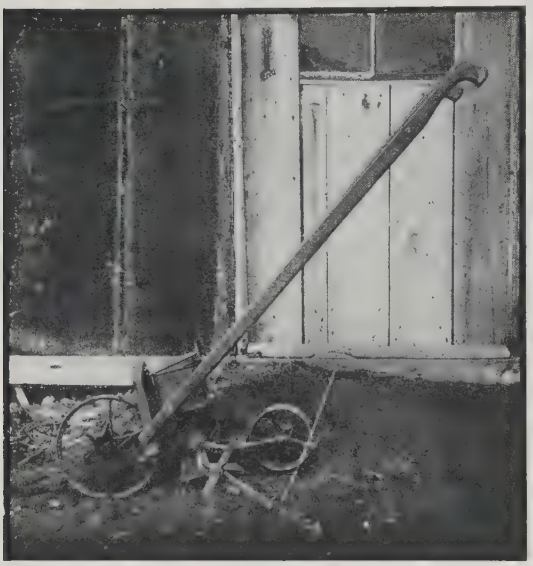
sprout, and grow; if not, try this simple experiment and you can see it for yourself. Take some of your beans, peas, and radish seeds, place them on a wet wad of cotton batting, in a glass with a little water in the bottom of it, and put them in a kitchen window near the stove or in a light place near a radiator; in the course of ten to twenty-four hours they will begin to expand until finally a tiny pointed root called the "tap root" will burst through the shell and will issue forth in search of food. The same thing happens, but not so rapidly, when seeds are placed in the soil. In order to germinate, seeds must have moisture and warmth; in order to grow well some must have more moisture and warmth than others — and these are designated by the comparative terms of "hardy" and "tender." But almost all seeds, if the ground is too wet or too cold, will rot instead of sprouting; and if the ground is too dry they will not sprout at all.

Now you will see why it was so necessary to take all those pains in making the seed-bed smooth and fine for planting the seeds. If the ground is left rough or lumpy, the soil, when the seeds are planted, is not pressed up quite close to them and the seeds do not get enough moisture to make them sprout properly. Or even if they do sprout, the tiny tap root issuing forth into dry air space becomes shriveled up and the seed dies. Therefore it is necessary not only to have the soil finely pulverized but to press the seed firmly into it when it is planted.

Of course, all seeds are not planted at the same depth. The big ones need to be covered deeper than the small ones. Also early in the spring, when the ground is still rather wet and cold, the seeds are not covered so deep as planting late in the spring when the ground has become hot and dry and it is necessary to go deeper to find enough moisture to make them sprout properly. The photograph on this page shows you several different ways of planting the seeds, the difference being not only in depth but in the method of planting. Some vegetables, such as pumpkins and squashes, form vines that cover a large space of ground; others, such as pole beans and tomatoes, should be staked up to make most of their growth straight up into the air; still others form a bulb or root, such as onions or beets, and take up very little ground. You can readily see, therefore, that they must be planted in ways which will take these different habits of growth into consideration.

The different methods have been termed, "drills, rows, and hills." In planting in *drills* the seeds are planted in continuous rows, usually putting in several seeds to the inch. In *rows* they are planted, or set out, each plant being separated by a slight distance, and usually a regular one, from its neighbors. In *hills* these distances are increased and usually they

are made the same in both directions, so that the crop may be cultivated both ways. The planting table on page 333 shows which of



A COMBINED SEED DRILL AND WHEEL HOE

these methods to use according to the various vegetables mentioned.

If you are going to have a garden of any size you will surely want a combination seed drill and wheel hoe, as this will make your work very much less. But probably your first garden will not be a very big one, and in this case you can either get some neighbor to sow the fine seeds for you with his seed drill, or you can open up the rows with a small hoe or with a sharp stick and scatter the seed in by hand. This is harder work, however, and usually it is not nearly so well done as the machine does it. If you do plant by hand, pat the earth down lightly on top of the row for the whole length of it, so that you will know just where it is even before the plants come up.

In setting out plants, too, there are several very important things which you must keep in mind. The plants must be set very firmly into the ground. If you put them in loosely and simply draw the earth around them with your fingers without making them tight and firm, many of them will be pretty sure to die. Secondly, you must have the ground moist enough to insure their roots getting a quick, strong start. If the ground is at all dry when you are setting them out, dig a small hole with the trowel or dibble (a sharp-pointed instrument which is used for setting out plants), and into the bottom of this pour a pint or so of water; in a few minutes this will have soaked into the ground and then you can set the plant with the assurance that it will live if you press the earth about it firmly enough. You should set it in as firmly as you can by using your knuckles, and, after the row is set out, go back over it and with the balls of your feet press the earth about the roots of the plant still more firmly, bearing your whole weight upon it, as shown in the illustration. Your plants will start better, too, if you take a large pair of scissors and cut off about a third or a half of the large outside leaves. This may make your plants look a little smaller for the time being but they will not wilt so quickly.

The dates given in the table for the planting of the various vegetables are, of course, only approximate. In seasons when there is an "early spring" you may be able to plant a week or ten days earlier than these dates, and in late, cold seasons it will be necessary to delay plant-

"WITH YOUR FEET PRESS THE EARTH FIRMLY"

ing for a week or so. These dates also are for the latitude of New York. In the latitude of Philadelphia you should plant about a week ear-

lier, and in the latitude of Boston about a week later.

You will notice that some of the vegetables are planted quite early in the spring and others not until quite late. Many of the early vegetables, which are termed the "hardy" ones, such as most of the root crops — parsnips, beets, carrots, onions, oyster plant, and so forth — can be planted just as early in the spring as the ground is dry enough to be gotten into good shape. The later crops, such as beans, and tender plants such as tomatoes, peppers, and eggplants to be set out, and the vine vegetables, including melons, squashes, and so on, are all tropical or sub-tropical in their nature and they will not begin to grow much, no matter what the dates on the calendar may be, until the really warm, settled weather has arrived. It will do very well to hurry the first class along in planting — you can hardly get them in too soon; but those in the second class cannot be pushed in this way. Therefore wait until weather conditions are proper and try to make up for lost time, if it is a late season, by giving them favorable conditions to grow in every way you can.

KEEPING AHEAD OF THE WEEDS

Don't let yourself get so enthusiastic over your gardening that you put in more than you can take care of. "Don't bite off more than you can chew." Remember that sowing seeds and setting out plants is only the first step. It may seem, for a few days after you get these tasks done, and the garden looks absolutely clean, that you will have easy work taking care of them; but before many days the crop of weeds will begin to put in its appearance and then if you are not careful you will find yourself with more work on your hands than you can attend to. You know the old saying about "a stitch in time saves nine"; well, this old adage is certainly true about keeping ahead of weeds if it is of anything. Don't wait for the weeds to show themselves; begin your fight with them just as soon as your crops are planted. If you have used a seed drill, or firmed down the tops of the row, in the way already suggested, you will be able to see the rows plainly just as soon as they are planted. Then get out your wheel hoe or your hand hoe and work the soil between the rows before any weeds begin to appear. If you look carefully you will see hundreds of little white root stalks which are the tiny weed seedlings. You can destroy a thousand of them in this stage with the amount of time and labor it would take to pull out a dozen of them when they begin to get big.

You must look at your battle with the weeds as a game in which the weeds are your adversaries. If you have ever taken part in long-distance races, or if you have played ball, you know how necessary it is to keep your opponents from getting in the lead; just so in your game with the weeds; you must get the start and keep it right through to the end.

Whatever tool you use, work up as close to the row as possible; and then, when the various vegetables you have sown begin to come up, showing still more plainly where the rows are, you will have to go over these by hand and pull out the small weeds between the plants which you cannot get at with your tools. To help in this work, however, there are a number of "hand weeders" advertised in the various catalogues. The sort of these which is advertised as "Lang's Hand Weeder" is the kind which I like best. It has a strap which fits over the back of one finger so that you do not need to drop it when you want to use your fingers.

This work, which is very important, should not be neglected or delayed in the slightest. Just as soon as the rows are up enough so that you can see them, do this work. Putting it off will only make it harder, besides being injurious to the vegetables; for the weeds soon make large masses of roots which will pull out the vegetables when you try to pull the weeds. If you keep your garden clean from the beginning you will find the work is not very hard; but if the weeds once get ahead of you so that you cannot attend to this work on time you will find yourself getting more and more hopelessly behind. For all those things which are planted several feet apart, such as cabbages, corn, tomatoes, or melons, you will find the iron rake a very handy tool, as you can go over the ground with this very rapidly, breaking up the crust and destroying the little weeds which are just sprouting.

THE REASON FOR CAREFUL CULTIVATION

Farmers and gardeners once thought that if they made their land reasonably rich and kept their crops free of weeds they were doing about all they could do to insure satisfactory results. Now the up-to-date ones are learning, however, that this is far from being the case. And, of course, you as up-to-date progressive boys and girls want to learn about these new and better methods of farming. Moreover you should not only find out *what* to do but *why* you do it. The two most important of these new things are, first, that you should keep all your ground thoroughly cultivated even when there is not a weed in sight; and, second, that crops of all sorts must be thoroughly and persistently protected from insects and diseases of all sorts if they are to do well.

The main reasons why thorough cultivation helps crops to grow, aside from keeping them clear of weeds, are that it helps to keep the water in the soil, and also to keep the ground broken up into small particles, so that air and water have access to it, and are thus able to change or "convert" the plant foods in it into forms which the plant can use, which are called "available" plant foods,—just as your mother cooks raw meat and vegetables for you in the kitchen, changing them into forms which you can eat and digest. You probably know, from helping your mother take care of her plants in pots in the house, and from seeing things dry up in summer when there is no rain, that plants must have plenty of water in order to grow. As a matter of fact, plants use from three to eight hundred *pounds of water* in absorbing enough plant food to make growth enough to yield *one single pound* of dry matter! They take it up through their roots, and then most of it passes off or evaporates again from the surface of their leaves. The ordinary potato, such as your mother cooks for dinner, contains about seventy-eight per cent of water.

Now your garden soil acts just like a gigantic sponge. When the snow melts and the rains come in spring, it absorbs all it possibly can, until the surplus runs off the surface and makes high water in the streams and brooks. But you know that if you take a wet sponge and set it out on a window-sill in the glare of the sun and in the wind, it will very soon become dry again. The water "evaporates," as we say, into the air. Just so this gigantic soil-sponge, as soon as the rains stop, begins to dry out. You probably know that if the sponge you placed on the window-sill had been covered over with a heavy sheet of paper or something of that sort it would have remained wet very much longer. Now we want to keep the water in the soil just as long as we possibly can during the hot, dry weeks of July and August, and in order to do this we cover it up with something. This covering is called a "mulch." Probably you would never guess what we use for it. Plain dry dust! Now, of course, you would laugh at the idea of going out and spreading dust two or three inches deep over your garden. But fortunately we don't have to do this. If you keep the surface of your soil cultivated in the way I have already told about, it will remain fine and soft and dry on the surface, but strange as it may seem this "dust mulch" on the surface will keep the ground underneath moist, whereas if you let a crust form, the moisture will keep coming up to the surface and evaporating off into the air until there is none left for the thirsty crop roots to drink, and as a result they will gradually stop making any new growth, and finally dry up and die.

PLANTS, LIKE PEOPLE, MUST HAVE AIR AND WATER

Plants not only need plenty of water but plenty of air also. And it is not sufficient that they should have this air only where it will reach the leaves and flowers. To a certain extent the roots need it also. Now when you neglect to cultivate your garden and a hard-baked crust forms all over the surface, the air cannot get down to the roots. If on the other hand you keep the surface thoroughly pulverized and stirred up as it ought to be, the air can get down into it and reach the roots.

So you see how important it is that you should cultivate — cultivate — cultivate. But it is not very hard work. You can go over the garden very quickly when there are no weeds to take out and you have nothing to do but stir the fine, loose soil on the surface. You should plan to get over the entire garden in this way

every week or ten days. And if you plan your work systematically, as you should, doing part of it every day, you will find that it requires very little time and effort.

THE BATTLE WITH THE BUGS

As your plants begin to grow and develop, you will find that there is some insect enemy for almost each one of them. You will find, too, that these little fellows, small and harmless as they may seem, will get the best of a good many of your crops if you do not take the trouble to keep a sharp lookout for them, and begin to fight them just as soon as they put in an appearance. There are a few *diseases* of plants too, but these are not so likely to give you trouble.

In the first place the best protection against bugs is to have good, strong, healthy-growing plants. Poor, stunted, sickly plants succumb quickly and easily to attacks by these enemies of yours, and are more likely to be attacked; while strong, healthy plants, even if they are attacked, are more capable of resisting their bad effects, and of getting over them.

Fortunately we now have the means of getting the best of most of these small enemies *if* we begin to fight them in time — just the minute the first one appears, and in some cases even before. On page 337 you will find a table which lists the different enemies which are likely to trouble your garden vegetables, and the remedies to use for them. The reason that we have to use different remedies is that some of these bugs live by *eating* the leaves of fruits of plants, and others do not bite or chew at all, but simply *suck* the juices. The first of course we can kill by putting poison on the leaves, but as there is no way of getting poison inside the plant into its juices, the second class has to be got rid of by something which will kill them by coming in contact with them. The first class is called "eating" insects and the second "sucking."

You should be very careful in using any of the poisons. Better get some friend or neighbor who knows about them to show you how to use them. If you have to keep a supply on hand be sure to put them in some place, *carefully labeled*, where they are out of the way; or, better still, give them to your father or mother to keep for you.

HARVESTING, AND FALL WORK IN THE GARDEN

A good many of the vegetables which you will grow in your garden can be kept for use through the winter months. Practically all the root crops are included in this class, such as potatoes, carrots, onions, parsnips, oyster plants, and turnips. Then there are the others which, while they will not keep through the entire winter, will last for several weeks or even months if properly stored. These are melons, squashes, peppers, eggplants, tomatoes, and celery. The place in which you store vegetables should be perfectly dry, and very clean and cool. It should also be tight enough so that you can keep rats and mice out. A good dry cellar is an ideal place, but if there is a furnace in it the part in which you keep vegetables should be partitioned off so that you can keep it cool. A temperature of from 35° to 40° is about right, and the nearer you can keep it to the former, without any danger of having things freeze in very cold weather, the better.

A good way to store small quantities of vegetables is to get a number of empty cracker-boxes from the grocer. These will cost only five cents each and will hold about a bushel. All of the root crops, except potatoes, to keep in the best condition should be packed in dry sand which is very slightly moist but not wet, or in sphagnum moss, which can be found in most low, swampy places. Either of these will supply just the amount of moisture to keep the vegetables nice and plump. If they become dry enough to shrivel they get coarse and stringy and are not so good. Where a cellar is not available, vegetables can be kept in a cold dark room upstairs. If such a room is used, the sphagnum moss will have a great advantage over the sand, as it is so much lighter and easier to handle.

Potatoes should be dug and allowed to become thoroughly dry and may then be packed away in boxes and stored. Onions need to be cured carefully before they are put away into winter quarters. Gather them when the tops turn yellow and die down, and leave them for a week or two under cover but freely exposed to the air, spread out in a thin layer. When they have become thoroughly dry, twist or cut off the tops, and pack them in what are

FIVE VARIETIES OF SUMMER SQUASHES

called slatted crates, which you can get from the grocer for about ten cents each.

Beets, carrots, turnips, parsnips, and oyster plants may be dug after the first light frosts begin to kill the foliage, and should be dried off thoroughly before being packed away in boxes. The most convenient way is to put a layer of sand or moss in the box, and then put enough vegetables to fill it a quarter or a third full, and then another layer of sand or moss, etc.

Melons, squashes, and sugar-pumpkins should be gathered just before the first frosts may be expected, and stored in some *dry*, cool place. They should always be handled with the greatest care, as the slightest bruise will soon begin to rot. "Winter" squashes will keep in a good place till spring. Melons, however, should be used up as soon as practical. Even those which are still quite green will ripen up gradually, so that by picking out the riper ones first you can have them for several weeks.

Tomatoes may be pulled up by the roots and hung upside down where the other vegetables are stored and will remain in good condition for some time, the green, full-grown fruit ripening up.

SOME WORK FOR THE GIRLS

A number of things which will not keep by storing in the ordinary way, such as tomatoes, green beans, sweet corn, may be put up in glass jars. Most of these things require at least partial cooking before being put up or preserved, and therefore, if you have never attempted any of this work, get someone who knows about it to show you how until you become familiar with the methods employed. It will be a very good thing for you to learn, and of the greatest use to you when you grow up.

GETTING READY FOR NEXT YEAR'S GARDEN

Do not be careless in the fall when your vegetables begin to mature and let the vegetable garden grow up to weeds and things become generally neglected. All weeds should be kept either pulled out or cut off, if they have grown large, before they have any chance to make and ripen seed, which will surely make trouble for you next season. All old vines, stakes, and rubbish of all sorts should be cleaned up and burned, as insects and insect eggs and cocoons are carried over in them.

But getting the garden cleaned up in the fall is not all you should attend to. As fast as any crop is ready to be harvested, or you are through with any strip of ground, even if it is only a row or two, it should be cleared off and forked or raked over on the top enough to get a fresh surface of soil. On this sow winter rye. It will sprout and in a short time continue to grow until the ground is frozen hard, and begin again just as soon as it thaws out next spring. The advantage of this is that the rye gathers up a great deal of plant food in the soil which would otherwise be washed away and wasted during the winter; and furthermore, when it is plowed or forked under in the spring, it will decay and make vegetable matter or "humus" in the soil; that is, it will make the soil more spongy, and therefore more capable of retaining moisture, which, as we have already seen, is most important in the growing of big crops. Having a "green-manure" crop of this kind to turn under in the spring is especially important, if you have to rely on fertilizers instead of manure for enriching your garden.

MONEY IN THE GARDEN FOR BOYS WHO ARE IN EARNEST — IRRIGATION

If, after trying gardening for a season or two, you find that you really like it, and want to go ahead with it in a more businesslike way, here are two or three suggestions for you.

First, select one crop and make a specialty of it. Perhaps you do not realize that some people who have learned the business thoroughly and attend to it make as much as a *thousand* dollars from a single acre. This, of course, is exceptional, but several hundred dollars an acre above

SWEET CORN STARTED EARLY IN PAPER POTS TO BEAT THE MARKET BY TEN DAYS

expenses is very frequently achieved. This is called "intensive farming." Now I do not mean to say that it would be a good plan for you to take an acre and try to make a thousand dollars, because that requires a great deal of capital and experience. But you can take a small piece of ground, and by trying to do your level best make as much money as you would in working for somebody during your vacation. What you should grow will depend upon your own choice and the market you have around home. Three of the most profitable crops are onions, celery, and strawberries. With any of these, if you do your work thoroughly and grow good stuff, you will be able to sell all you raise at a good profit. In most of the seed catalogues you will find advertised books on these special crops, and you should secure one or more of these and study the subject up thoroughly. Try your information out for a season or two on a small scale, until you are master of all the details involved.

ONIONS GROWING UNDER OVERHEAD IRRIGATION

Do not go into it with the idea that you will make a lot of money for a year or two and then drop it, for if you do you are almost sure to be very much disappointed if not to fail altogether.

Here is the second suggestion I have to make. You know how important a matter we found it to have plenty of water if we want big crops. In some seasons we have several weeks with hardly a drop of rain. No matter how much you cultivate the surface of the soil and save the moisture in it, there will not be enough water in the soil to grow a big crop. Therefore, if we are to succeed fully, it becomes necessary to add water by some artificial means. During the last few years there has come into use a new system of applying water to gardens and fields. It is known as the Skinner or overhead system of irrigation. With this you do not have to take any chance on the weather, and even in a bad year you can grow big crops just when prices are highest. On this page you will find a photograph of one of my onion fields where this irrigation system is installed. On the next page is a picture of two bunches of onions, one of which was taken from this irrigated field, and the other from a plot in the same piece of ground that was not watered. They are fair samples of the difference which irrigation makes.

If you are fortunate enough to have water near your garden, and can get a pressure of twenty to forty pounds, then for a small piece, say a quarter or a half an acre, it would cost you very little to put this system in. It would take away the biggest risk which gardeners have to take, that of damage from dry weather.

But you must remember that all I have had to say in this article is meant only for boys who are in dead earnest, and want to make a real business of gardening, even though they have to do it, at first, anyway, on a very small scale.

A WORD ABOUT FRUIT

Of course, the space which the editors have given me to write about gardening is very limited. There are so many things in this wonder world of ours that boys and girls should know about that no book or set of books, even a big encyclopedia, could cover it all. Therefore, I have not room to tell you the details about growing small fruit. But I am going to give you a single example that will show you how little space is really required if you should be interested in trying this fascinating branch of gardening. In a very few feet of ground you can plant what is called a "dwarf fruit tree"; that is, a very small-growing kind of tree upon which *full-sized*

TRANSPLANTING: CABBAGE PLANT TRIMMED READY TO SET OUT

fruits can be grafted, so that they can be grown even in a very small place such as could be found in almost any yard.

In addition there are what are called the small fruits — raspberries, blackberries, currants, etc. None of these things costs very much to get started with, and you can find out how to grow them in magazines and catalogues. Most of what I have already said about selecting a position for the garden, and what you can do with vegetables, would apply to these things just as well.

In conclusion, I want to say that the more you work at gardening and the more you study and learn by experience how to grow perfect crops of the things you plant, the more in-

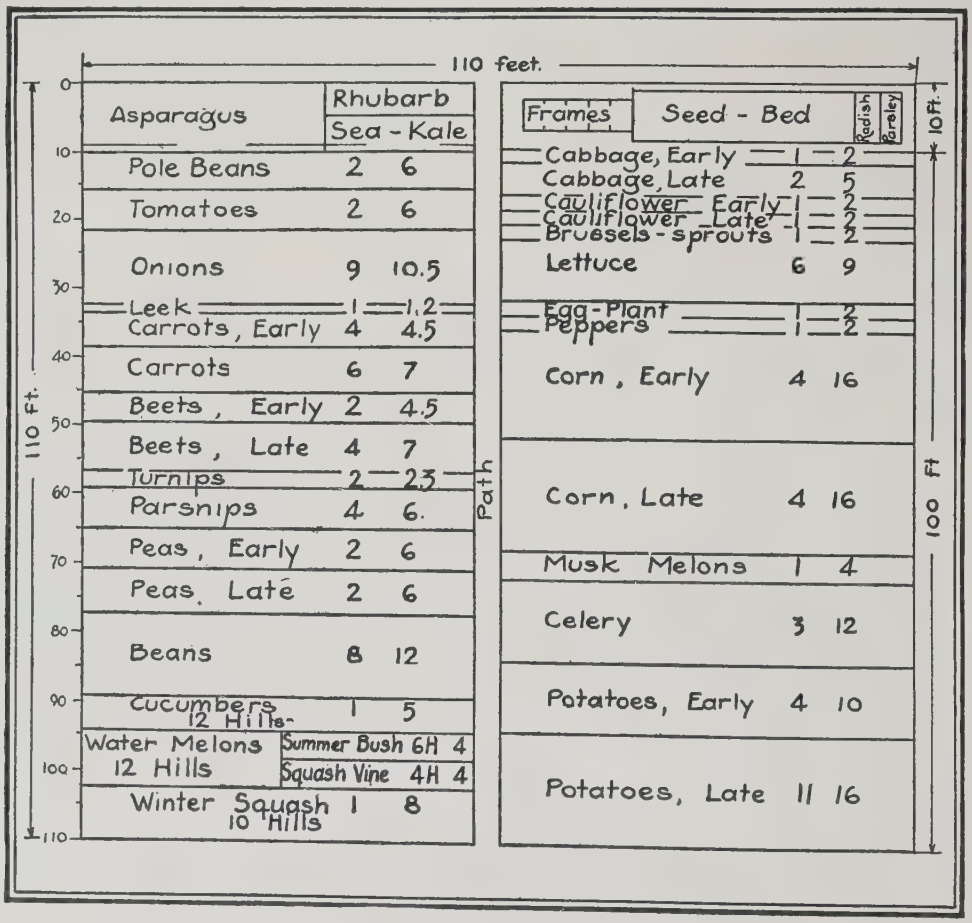
SOWING SEED

ONIONS GROWN WITH OVERHEAD IRRIGATION

ONIONS GROWN IN THE USUAL WAY

teresting, even exciting, you will find it. And if, as you go ahead with this work, it seems to you that you would like to become a gardener or a farmer, do not be ashamed to make that your work in life. There is opportunity to use all the ability and talents you have in agriculture — just as much chance as anywhere to make a good and honorable living for yourself, and to accomplish something really worth while in the world. But whatever you expect to do when you grow up, you will find your knowledge of gardening a very good thing to have.

GRAND RAPIDS AND WAYAHEAD LETTUCE



HOW TO LAY OUT A SMALL VEGETABLE GARDEN

GRAPES AND CURRANTS IN THE SMALL GARDEN

THE FLOWER GARDEN

NOW I do not want any girls who may happen to read the preceding pages to feel that I have been neglecting them in favor of the boys. Everything I have said might be just as truthfully addressed to them; and many women make just as successful gardeners, and especially florists, as men do. But it is quite natural that the man of the house should grow the vegetables, and the woman should have as her special job the flowers, and therefore in the following pages I am going to address myself to you, although your brothers, if they care to, may read and profit by it just as well. In these days, anyway, we are getting over those old mildewed and lopsided ideas we used to have about men and women having their "spheres of life" so distinctly separated from each other. They should be friends and companions all through life, intelligently interested in each other's work, even though each has some special duties of his or her own to attend to.

Women have to spend more of their time about the home than men, and therefore they are more interested in seeing it made cheerful and bright with flowers. So all girls should learn about the various flowers and plants and how to take care of them and make them succeed.

But it is not just for the sake of learning that girls should be interested in flowers and flower gardening. They will begin at once to get the benefit and pleasure from any effort they make along this line. There is no need for me to tell you the importance of having cheerful, beautiful homes, and you know what an important part flowers play in achieving this important result. You know how much more attractive and inviting some places look than others, although the houses and the grounds in both cases may be practically the same. The difference lies only in what has been done with flowers and shrubs. If your own place is not already just as beautiful as any you know of, try then to make it so. I say "as beautiful"—that does not mean necessarily as expensive and elaborate. Plants, bulbs, and even flowering shrubs cost very little once you learn how to take care

of them and make them grow. Then you can get them when they are small, or even in seeds, and develop them into fine specimens which will make people stop and admire your place, and for which you would not take many dollars.

But of course if you are to do this it will take some study and effort. Nothing worth while comes without effort on our part; it is what Emerson, you know, called the "law of compensation," that the more we have to work for a thing the more we appreciate and enjoy it when we get it.

Flowers and shrubs grow in very much the same way that vegetables do, and all that I said about the necessity of keeping the ground rich and moist, the selection of location, and so on, applies to the flower garden just as well as to the vegetable garden. So you should read that all over even if you are not interested in growing vegetables.

DIFFERENT METHODS OF PLANTING

But we shall find that we cannot talk very much about growing plants and flowers until we first define a few names and terms. Some of you probably already know about these, but others do not. You may have read articles in magazines that referred to the hardy border, or herbaceous perennials, or hardy biennials, and things of that sort, the meanings of which you had never been told. So to get this matter straightened out right off, I will tell you at the beginning the meaning of the names and terms you are most likely to come across in reading magazine articles or books on flowers. You should read these over and talk about them with your friends who know about flowers until you become familiar with them and know the meaning of each.

As you have probably already observed, flowers are handled in many different ways. Sometimes you see a single specimen on the lawn or near the shrubbery; at other times large beds in solid masses; and at still other places long narrow strips made bright with flowers.

Flower-Beds. These are really only small gardens, usually round or rectangular, which are made rich and especially prepared for the planting of flowers. They are placed either as single isolated beds about the lawn or grounds, or a number of beds together, with walks between them, to form a flower garden.

Flower-Borders. These are merely long flower-beds, usually placed along drives or walks, or in front of the piazza, or long lines of shrubbery. The border, like the flower-bed, may be filled with flowers of any or all kinds.

Old-fashioned Garden. This term refers both to the form and the contents of the garden. A real old-fashioned garden is supposedly modeled after the flower gardens which our grandmothers used to make and keep. They were laid out in a rather informal way, and such old-fashioned hardy flowers as hollyhocks, larkspurs, foxglove, bleeding-heart, phlox, and iris predominated, while such annuals as balsam, lobelias, marigolds, nasturtiums, pansies, portulacas, petunias, stocks, sunflowers, sweet alyssum, verbenas, and zinnias made the edges and stray corners gay with lush tangle of sometimes inharmonious but always cheery blossoms.

Formal and informal gardens. These terms relate to the way in which the garden is laid out. Where everything is straight, measured, and symmetrical, we say that the garden is formal. In the great majority of cases the informal garden is very much to be preferred, — that is, a garden in which no rigid mathematical plan is adhered to, and things are made to look more "natural" in their arrangement, more as if they grew there, although you may take just as much pains in placing them so as to obtain an artistic effect as in making a formal garden.

THE VARIOUS KINDS OF PLANTS

In the seed catalogues, and on the envelopes of seeds which you buy, you will find the various flowers described as "annuals," "biennials," or "perennials," and as "hardy" or "tender."

Annuals are those which bloom the first season from seed, and die in the fall. They either seed themselves, in which case they are called "self-sowing" annuals, or have to be planted again the next spring.

Biennials live for two seasons, and most of them do not bloom before the second season after the seed is planted, though if started early

under glass (in February or March) a great many of them will blossom the same year.

Perennials are plants which, though the tops may die down each fall, come up again from the same root in the spring. Some of them are hardy and will live through the winter without any protection; others are semi-hardy or tender, and either require protection outside with leaves, bog-hay, or rough manure, or have to be taken in and carried through the winter in pots, or in a dormant condition in the cellar.

Bulbs and Tubers. These are plants which in the fall form at their base thick fleshy masses which may be taken up and set out again in the spring. Cannas and dahlias are examples of this sort; or, to use a more humble illustration, the common potato.

Shrubs are the small trees or bushes which you so often see used for decorative effects, many of them bearing a great profusion of flowers. Some of these, like the hardy perennials, die back to the ground each year; these are called herbaceous shrubs.

FOXGLOVE

HOW TO MAKE THE PLACE MORE BEAUTIFUL

Whether you have to begin with a yard that is quite bare or one which has already been partly planted, the first thing for you to do is to observe carefully other places that seem attractive and take careful note of the features which make them so. In your own mind build up a picture of how the place where you yourself live might be made more beautiful with the same or similar effects. It is a good idea to make a little plan on paper and put down the various things you would like to do. Of course you cannot attempt to do them all at once. Nor should you make the mistake of thinking you can make use of every attractive thing you see; some of them would not harmonize with each other; and others, for different reasons, would not be suitable for your particular conditions. You can imagine what sort of a looking hat you would have if you went into a millinery store and attempted to use on it some or each of the many different kinds of trimmings you found there. It is just so in planning to beautify the place: a great deal of the work is in deciding what to leave out. But if you make your plan on paper first you can put down one thing after another as you decide they would be suited to your particular requirements. Then, after you get your plan made, you can begin, one thing at a time, to really plant them outside.

As I have already said, there are several ways of getting plants if you once take the pains to learn how to grow them. Very many of them can be grown from seed, which costs five or ten cents a packet. Then very many, even of the best hardy perennials and shrubs, can be bought at fifteen to twenty-five cents each. Some of these naturally multiply by themselves, so that after a year or two, by dividing the clumps, you can increase your stock until it is as large as you want. Then, too, after you once get a good start with your flower garden and begin to get more of certain things than you need yourself, you can "trade

off" with other girls or with your neighbors, just as your brother trades duplicate stamps that he does not need for his collection.

With the various operations of starting seeds, transplanting, setting out, repotting, pruning, etc., the best way is for you to get some friend who knows about them to show you the first few times you try to do them. Or you can offer to help her with her work, and learn in this way.

LOOK OUT FOR THE SOIL

In starting seeds one of the most important things is to have your soil just right. Most flower seeds are very fine, and while some of the larger ones will start satisfactorily in ordinary garden soil, for the fine ones it is better to mix up a special soil, using about one third each of garden soil, leaf-mold, and sand. Leaf-

ROOTED CUTTINGS OF GERANIUMS READY FOR POTTING

mold you can find by going to the woods and digging down below the top layer of leaves back of any wall or in a hollow where the leaves have collected thickly and rotted for many years. Run this material through an ash-sieve and mix it thoroughly with the sand and soil.

To make the seedbed, select a nice warm sunny spot that is protected from north and northwest winds, and where there is no possibility of rain dripping off the roof upon it. Make a raised bed a few feet square — big enough for the seeds you have to sow. The

A "FLAT" MADE FROM AN ORDINARY CRACKER-BOX

rows may be made four or six inches apart. Cover this raised bed with two or three inches of your prepared soil, mark off the rows just deep enough so you can see them, and sow the seeds thinly. Several hours before sowing the seed give the bed a thorough watering. Cover small seeds just deep enough so they cannot be seen. In sowing seeds early, in the house or hotbed, a "flat" or shallow box is used, and the rows put two or three inches apart, as illustrated above.

A good many of the annuals can be sowed where you want them to blossom, but with the biennials and perennials it is much better to start them in this way, and then transplant them when they are two or three inches high. Put them in rows a foot apart, several inches asunder in the row. Then, late in the fall or very early in the spring, when they have made good stocky plants, set them out in their permanent positions.

In transplanting, take the plants up with a good-sized piece of dirt, with an old fork or kitchen knife, and separate them very gently so as not to break any of the little roots, as shown on this page. Have the soil in which you are going to put them fine and smooth, and, if it is at all dry, water it thoroughly in the morning and transplant late in the afternoon. Then for two or three days, during the noon hours, shade with pieces of newspaper or thin boards supported on sticks to keep them from wilting until they become established.

The table on page 335 gives a list of the best of the ordinary garden flowers, and particulars about their height, season of bloom, colors, etc.

PLANTING TABLE FOR VEGETABLES

A CAREFUL STUDY OF THIS TABLE AND THE ACCOMPANYING REMARKS WILL PROVE OF GREAT PRACTICAL VALUE IN THE MAKING OF A SUCCESSFUL GARDEN

Vegetables	When to plant	Amt. for 50 ft. row	Distance to plant		Depth to plant	Class	REMARKS
			In row	Rows apart			
Asparagus (plant)	April	50	1 ft.	3 ft.	4 in.	B	Plant in rows heavily manured, spreading the roots out evenly. Do not cut for use until *second* spring. Keep bed clean; cut off tops in the fall. Transplant seedling third spring.
Asparagus (seed)	April–May	1 oz.	2 to 4 in.	15 in.	1 in.	B	
Bean, dwarf	May 5–Aug. 15	1 pt.	2 to 4 in.	1½ to 2 ft.	2 in.	C	The first sowing should be but an inch and later sowings two or three inches deep. Does not require richest soil. Never work or pick when foliage is wet.
Bean, lima	May 20–June 10	½ pt.	3 in.	3 to 4 ft.	2 in.	B	See below.
Bean, pole	May 15–June 10	½ pt.	3 in.	3 to 4 ft.	2 in.	B	Hills should be especially prepared with old, well-rotted manure. Building laths nailed across 2 x 3-inch posts, 7 feet high, make a better support than poles.
Beet (early)	April–June	1 oz.	3 to 4 in.	15 in.	1 in.	A–D	Make first sowing extra thick, as soon as ground can be worked. Plants started under glass can be set out, 6 inches apart.
Beet (late)	April–August	1 oz.	3 to 4 in.	15 in.	2 in.	B–E	As above.
Borecole (kale)	April–July	25	18 in.	2½ ft.	½ in.	E	See Kale.
Broccoli	April–July	35	18 in.	2 ft.	½ in.	A–C	Similar to cauliflower, but hardier.
Brussels Sprouts	April–July	35	18 in.	2 ft.	½ in.	A–E	Improved by frost. One of the best winter vegetables.
Cabbage (early)	April	35	18 in.	2 ft.	½ in.	A–C	Give richest and deepest soil. Keep free from Green Cabbage Worm. Cultivate often. Can be set out as early as ground can be worked.
Cabbage (late)	May–June	20	2½ ft.	2½ ft.	½ in.	A–E	As above.
Carrot	April–July	½ oz.	2 to 3 in.	15 in.	½ in.	C–B	Soil should be deep and not too rich. Apt to come up too thick and need thinning.
Cauliflower	April–June	35	18 in.	2 ft.	½ in.	A–C–E	Not quite as hardy as cabbage. Must have water at heading period. Tie up leaves over head as soon as it forms.
Celery (plants)	July 1–Aug. 1	100	6 in.	3 to 4 ft.	¼ to ½ in.	A–E	See below.
Celery (seed)	April	1 oz.	1 to 2 in.	1 ft.	¼ to ½ in.	A	Start early crop under glass (Feb.–Mar.) and main crop outside under glass in seedbed (April). Transplant before setting in permanent position. Must have moisture and be "blanched" with either boards or soil.
Corn	May 10–July 1	½ pt.	3 ft.	3 to 4 ft.	2 in.	B–E	Frequent shallow cultivation is the secret of success in growing corn. Allow but four to five stalks to each hill.
Cucumber	May 10–July 1	½ oz.	4 ft.	4 ft.	1 in.	A–B	For extra early plants, start seed in inverted sods in frames. Make rich hills. Keep off the Striped Beetle!
Eggplant	June 1–June 20	25	2 ft.	2½ ft.		A–B	Give richest soil. Must be watched and watered in dry weather. Keep off the striped Potato-Beetle.
Endive	April–August	½ oz.	1 ft.	1 ft.	½ in.	A–E	Best for fall use. Prepare ground as for lettuce, but must be blanched by tying up or shading.
Kale (borecole)	April–July	25	18 in.	2½ ft.	½ in.	E	Sort of bouquet cabbage, used as "greens." Improved by frost, and should be grown for winter.
Kohl-rabi	April–June	¼ oz.	6 to 12 in.	18 in.	½ in.	C	As easily grown as turnips. Use when small (not more than two inches in diameter).

(Continued on following page)

PLANTING TABLE FOR VEGETABLES — *Continued*

Vegetables	When to plant	Amt. for 50 ft. row	Distance to plant		Depth to plant	Class	REMARKS
			In row	Rows apart			
Leek	April	½ oz.	2 to 4 in.	15 in.	½ in.	A–B	For best results, transplant and keep hilled up to blanch.
Lettuce	April–August	½ oz.	1 ft.	1 to 1½ ft.	½ in.	C	Make successive plantings every ten days, using loose-head types in midsummer. Quality depends on quick growth.
Melon, musk	May 15–June 15	½ oz.	4 to 6 ft.	4 to 6 ft.	1 in.	A–B	Light warm soil. Same care as cucumber.
Melon, water	May 15–June 15	¼ oz.	6 to 8 ft.	6 to 8 ft.	1 in.	B	Make rich hills. To insure ripening, pinch back the vines at about six feet.
Okra	May 15–June 15	½ oz.	2 ft.	3 ft.	½ to 1 in.	B	Plant only after soil is thoroughly warmed up. Seed in drills.
Onion	April	½ oz.	2 to 4 in.	12 to 15 in.	½ in.	A–B	For big specimens, start indoors and transplant. Plant outside crop as soon as the ground is ready. Soil must be perfectly prepared.
Parsley	April–May	½ oz.	4 to 6 in.	1 ft.	½ in.	B	Soak seeds before planting and put a few radish seeds with them to mark rows, as parsley germinates slowly.
Parsnips	April	¼ oz.	3 to 5 in.	18 in.	½ to 1 in.	B	Sow early in deepest soil available. Thin out *while small.*
Peas	April 10–June 15	1 pt.	2 to 4 in.	4 ft.	2 to 3 in.	B–E	Plant early! Sow in double rows, and give brush or supports between. First sowing one inch and later two or four inches deep.
Peas (smooth)	April 1–Aug. 1	1 pt.	2 to 4 in.	3 ft.	2 to 3 in.		As above.
Pepper (plants)	June 1 to 20	25	2 ft.	2½ ft.		B	Same treatment as eggplant.
Potato	April 15–June 20	½ peck	13 in.	2½ ft.	4 to 6 in.	B	For best results, use light but rich soil, finely prepared, and cut pieces to one or two eyes. Cultivate frequently, and keep Potato-Bugs away.
Pumpkin	May 1–June 20	¼ oz.	6 to 8 ft.	6 to 8 ft.	1 to 1½ in.	B	Use the "sugar" or "pie" variety. Same care as squash.
Radish	April 1–Sept. 1	½ oz.	2 to 3 in.	1 ft.	½ in.	C	Plant every week for best quality. Add land-plaster to the soil. Water if dry.
Rhubarb (plants)	April	25	2 to 3 ft.	3 to 4 ft.		B	Set out root-clumps. Give them dressing of bone meal and soda in the spring.
Salsify	April–May	¾ oz.	3 to 6 in.	18 in.	1 in.	B	One of the best vegetables grown. Treat same as parsnip.
Spinach	April 1–Sept. 15	½ oz.	3 to 5 in.	18 in.	1 in.	A–B–E	Swiss chard, while not strictly a spinach, should be tried. With many it is entirely replacing the latter. Both should be grown as rapidly as possible.
Squash, summer	May 15–July 1	¼ oz.	4 ft.	4 ft.	1 to 2 in.	B	Hills should be well enriched. Use coal ashes with the manure. Protect growing plants from Striped Beetle and other insects.
Squash, winter	May 15–June 20	¼ oz.	6 to 8 ft.	6 to 8 ft.	1 to 2 in.	B	As above.
Tomato (plants)	May 15–July 20	20	3 ft.	3 to 4 ft.		B	Set out when danger of frost is over. Enrich soil with bone flour. Lath supports (see beans, pole) are an improvement over poles. Keep tied up and remove all "suckers."
Turnip	April–September	¼ oz.	4 to 6 in.	15 in.	½ in.	C	Quality is better on sandy soil. Plant frequently and use when small.

Dates given are for latitude of New York. Each 100 miles north or south will make a difference of from 5 to 7 days in the season. The distances given here indicate the distance apart the plants should stand *after* thinning. The seed should be sown much nearer together. (A) These plants may be started early (in the greenhouse or hotbed in early spring, or outdoors in the seedbed later), and afterwards transplanted to their permanent location. (B) These crops usually occupy the ground for the entire season. (C) These are quick maturing crops which, for a constant supply, should be planted at several different times in "succession" — a week or two weeks apart. (D) These are crops which often may be cleared off in time to permit planting another quickly maturing crop, usually some early variety. (E) These crops are supplementary to those in Class D, and may be used to obtain a second crop out of the ground from which early crops have been cleared.

HOW TO GET THE BEST RESULTS IN YOUR FLOWER GARDEN

PLANTING TABLE FOR FLOWERS

FLOWER	DISTANCE TO PLANT	HEIGHT	COLOR	SEASON	REMARKS
			ANNUALS		
AFRICAN DAISY	6–10	12–15	Rich, various	June to frost	New profuse flowering plants, good for beds and borders.
AGERATUM	6–12	12	Blue, white	June to frost	Popular old-fashioned plants for edging. P.
ASTER	12–24	18–30	Various	July–Sept.	Protect from Aster-Beetle by hand picking and Paris Green. P. C.
BACHELOR'S BUTTON	6–10	15–24	Blue, white, pink	July	Old favorite for borders. S. C.
BALSAM	15–20	10–18	Various	June–Sept.	Use in foreground, where individual flowers will show.
CALENDULA	12–18	18–24	Orange, yellow	June to frost	Very free-flowering; masses or borders.
CALIFORNIA POPPY	6–8	12	Orange, yellow	August	Sow early. Beautiful in solid beds. Fine new varieties.
CALLIOPSIS	8–10	12–18	Yellow (orange-brown)	June–Sept.	Of very quick growth, and free flowering. C.
CANDYTUFT	4–12	6–18	White, crimson carmine	June–Sept.	Good for solid masses of color, especially white. C.
CASTOR BEAN	24–36	50–90	Foliage	July to frost	Very rapid grower; screening and tropical effects. S.
CHRYSANTHEMUM	12–18	12–36	Various	August–Oct.	Very easily grown and very showy.
CLARKIA	8–10	18	White, rose, purple	June–Sept.	Bright daisy-like flowers, pretty foliage. C.
COCKSCOMB (Celosia)	8–18	6–18	White, red, yellow, purple	June to frost	Satisfactory borders, especially for long lines of color.
CORNFLOWER	8–12	12–40	White, blue, lilac	June–Aug.	Greatly improved. One of the best *blue* flowers. C.
COSMOS	24	2–8 ft.	White, pink, red	August to frost	One of the most beautiful of annuals. Start early. P. C.
GLOBE AMARANTH	10–15	18	Pink	July	Also for borders and masses. C.
GODETIA	8–12	12–24	Red, white	July–Oct.	Good for masses. C. S.
GOURDS	12–24	5–15 ft.	Colored fruits	July to frost	Climbers. Fruits of various shapes and colors.
GYPSOPHILA	6–15	12–24	White	June to Sept.	Valuable for bouquets. Make several plantings. C.
LARKSPUR ANNUAL	6–12	18–36	White, blue, pink	June–July	Rich colors. Another of the best blue flowers. C.
LAVATERA	8–12	3–6 ft.	Rose	July	Another good screening plant.
LOBELIA	4–8	6–18	Blue, white	June–Sept.	Beautiful for low borders and edges; also in mass. S.
LOVE-IN-A-MIST	10–12	12–24	White-blue	June–Sept.	Old favorite; good for borders.
LOVE-LIES-BLEEDING	10–15	3–5 ft.	Yellow to scarlet	June–July	Good for screens and masses. Will self-sow.
LUPINE	4–8	12–24	White, blue, pink	June	New varieties give a range of colors. C. S.
MARIGOLD	6–18	10–36	Pale gold to orange	July to frost	Great variety. Dwarf sorts good for edgings.
MIGNONETTE	6	12–18	Golden to reddish yellow	July–Sept.	Prized for its delicious fragrance. Second planting in August. C.
MOONFLOWER	6–18	15–30 ft.	White, blue	August to frost	Most beautiful annual climber. Start under glass. P.
MORNING GLORY	4–12	10–20	Various	July–Sept.	Flowering annual for quickly covering fences, etc.
NASTURTIUM	5–12	12–60	Various	July to frost	Wonderful improvements, especially in the foliage. C. S.
NICOTIANA	8–12	3–5 ft.	White, red	July to frost	Unique, pretty flowers with a jessamine-like fragrance.
PANSY	6–8	6	Various	May to frost	Get *young*, small plants for best results. P. C.
PETUNIA	8–12	12–24	White to claret, mixed	July to frost	Wonderfully free-flowering and showy. S.
PHLOX DRUMMONDII	8–12	12–36	Various, brilliant	July to frost	Splendid for solid beds, or medium height bright edges.
PINKS (Dianthus)	5–8	10–18	White to rose	August to frost	One of the most satisfactory of all summer annuals. C.
POPPY	4	6–10	White to scarlet	July–Sept.	Will not transplant well. Most effective in mass beds.
PORTULACA	4–6	6–10	White, yellow, red shades	July to frost	Cheery, old-fashioned favorites; full sun, sandy soil.
SALPIGLOSSIS	6–12	12–24	Various	June–Sept.	Wonderful velvety texture and delicate pencilings. C.
SALVIA	6–12	12–36	Scarlet	August to frost	For mass effects the most vivid of all red flowers. P.
SCHIZANTHUS	8	24	Mixed — yellow to lilac	July–August	Good for masses when blossoms are scarce.
STOCK	6–12	12–24	Various	June–Sept.	Beautifully formed; delicate shades; very fragrant. C.
SUNFLOWER	24–36	3–7 ft.	Yellow	August–Sept.	Very rapid growing; useful for screening fences, etc.
SWEET ALYSSUM	4–8	8–10	White	May to frost	Still the most popular of edging plants. S.
SWEET PEA	4–8	2–6 ft.	Various	June–Sept.	For best results start inside in pots, and set out in April. C.
THUNBERGIA	4–10	3–8 ft.	White, yellow, orange	July–Sept.	Good for low trellises and vases.
TORENTIA	6–12	8–15	Blue, white	July–Sept.	Unique; good for vases and hanging baskets.
VERBENA	12–18	6–9	Various	July to frost	One of the brightest, cheeriest, and most free-flowering.
ZINNIA	8–12	12–24	Various, brilliant	July to frost	Brilliant masses of color; dwarf, red sort splendid for borders.

(*Continued on following page*)

PLANTING TABLE FOR FLOWERS — *Continued*

FLOWER	DISTANCE TO PLANT	HEIGHT	COLOR	SEASON	REMARKS
			BIENNIALS		
CAMPANULA	8–12	18–36	White, blue, pink	June–August	Still popular for both beds and borders.
FORGET-ME-NOT	6	6–12	Blue, white	April–July	The best blue edging plant; the most dainty. S.
FOXGLOVE	10	12–36	Pink, white, various	June	Very easily grown; old favorites for the border.
HOLLYHOCK	12–18	3–7 ft.	White, yellow, scarlet, rose	August–Sept.	Especially valuable against high walls. Gorgeous colors.
SWEET WILLIAM	6–12	12–18	White, pink, red	July–August	Still one of the very best border plants. C.
WALL FLOWER	6	12–30	Brown, yellow	July–Sept.	Fragrant. Early sorts may be treated as annuals. C.
			PERENNIALS		
ADONIS	6	12	Yellow	May–June	Good early flower for border.
ALYSSUM (Saxatile)	6–12	12	Golden yellow	May–June	Especially useful around rock-work, bases, etc.
ANEMONE	12	12–36	White to rose	August to frost	Should have a place in every garden; extremely beautiful. C.
AQUILEGIA	10	12–36	Various	June–July	Greatly improved. Very graceful. C.
BELLIS	4–6	6–8	White, pink, red	April-July	Low-growing, beautiful little daisies, extremely attractive.
BLEEDING-HEART	12–18	24–30	Purple, pink, white	May–June	Peculiar heart-shaped flowers in graceful sprays. S. C.
CANDYTUFT (Iberis)	6	9	White	May–June	A hardy form of the annual above.
CHRYSANTHEMUM	12–18	24–40	Various	August to frost	If started early, will flower first year. C.
COREOPSIS	12–15	24–36	Golden yellow	June to frost	Free-flowering, for the hardy border. C.
DAHLIA	24–36	2–4 ft.	Various	July to frost	Easily grown; likes very rich, heavy soil. C.
FOUR O'CLOCK	10	30	Yellow, white, red	July–August	Midsummer; good for border.
GAILLARDIA	10–12	18–24	Yellow, crimson	July to frost	If sown early, will bloom first year. C.
HELIANTHUS	2–4 ft.	2–10 ft.	Yellow	August to frost	The improved types are truly gorgeous. C.
HELIOPSIS	8–15	3–4 ft.	Yellow	July–Sept.	Good for mass effects in background.
IRIS	12–18	18–30	Various	May–July	Some of the shades beautiful as orchids. C.
LARKSPUR	12–18	3–4 ft.	Blues	July–Sept.	Best blue flowers for the border.
MONKSHOOD	10–15	36	Blue-white	July–August	Good for borders, but poisonous.
PEONY	24	24–36	Red, pink, white	May–June	Most showy of all border plants. P.
PHLOX (Hardy)	12–18	12–36	Various	July–Sept.	Permanent and satisfactory border plants. P. C.
PINK	6–10	8–12	Various	August–Sept.	Beautiful colors; one of the best for cutting. C.
POPPY (Iceland)	6	12–18	White, yellow, orange	May–Sept.	Flowers on long, stiff stems. Continuous bloomers. C.
POPPY (Oriental)	12–18	24–36	Crimson shades	June–August	Enormous, brilliant flowers; vigorous growth.
PRIMROSE	4–5	4–6	Yellow, pink	April–May	Pretty, early flowers for border or edging.
PYRETHRUM	8–12	12–24	Various	August to frost	Very attractive little edging plant.
RUDBECKIA	12–18	4–7 ft.	Yellow	August–Sept.	Good for screening and mass. Rank grower. P. S.
SCABIOSA	8–12	15–30	White, various, and blue	June–August	Fine light-blue flowers for cutting, blooming very freely. C.
SILENE	5–6	4–5	White to rose	June–August	Low-growing plant, good for masses or broad edgings.
SNAPDRAGON	8–12	24	Various	July–Sept.	One of the finest flowers for cutting. Hardy with protection. P. C.
VERONICA	8	24–30	Purple	August	Good for edging.

NOTE.— C. Flowers especially good for cutting. S. Flowers thriving in partial shade. P. Flowers that should be started early under glass, or purchased from the florist.

ANNUALS.— While most of these can be sown in the open ground in May or early June to flower the same year, quicker results will be had if they are started early in flats, in the hotbed or window, and transplanted. With some (marked "P" above) it is quite necessary to do this. With annuals especially it is important *to keep the flowers cut off* before ripening seed if a long season of bloom is wanted.

BIENNIALS.— These should also be sown every year, that flowers for the year following may be provided. They may be started in May or June and transplanted later to their permanent places. Foxglove and other short-lived perennials are best treated in the same way.

PERENNIALS.— Many of these, if sown early under glass, will flower the first year — some even from seed sown in the open. They should be grown to fair size in the seedbed and then transplanted to permanent quarters. The border of hardy perennials should be one of the most beautiful spots in the garden.

GARDEN INSECTS AND DISEASES AND THEIR REMEDIES

ETERNAL VIGILANCE IS THE PRICE OF FREEDOM FROM GARDEN PESTS

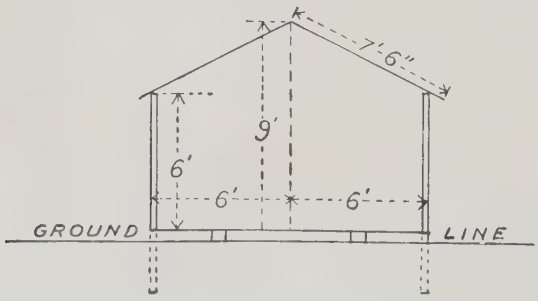
INSECT OR DISEASE	ATTACKING	REMEDIES	REMARKS
VEGETABLE GARDEN			
Aphis	Melons, cabbage, etc.	Nic.; KE	Spray must reach under side of leaves, especially of melons; several applications three or four days apart.
Asparagus-beetle	Asparagus foliage	AL	Late in summer all vines should be cut and burned.
Caterpillar	Cabbage, tomato, and tobacco	AL; PG; H	Use spray liberally.
Cucumber-beetle	Cucumbers and vines	AL; tobacco dust	Use BM in connection with LA; tobacco dust as preventive.
Cut-worms	Cabbage, tomato, onions, etc.	AL, in bran	Make a poisoned bran bait by mixing 1 qt. wheat bran, one teaspoon white arsenate, one teaspoon cane molasses.
Flea-beetle	Tomato, potato; cabbage, turnip seedlings	AL; tobacco dust	Especially injurious to seedlings of cabbage, turnip, and radish; tobacco dust as preventive.
Potato-beetle	Potato, eggplant, and tomato	AL; PG	Especially injurious to eggplant; hand pick as well as spraying.
Squash-bug	Squashes and vines	KE; tobacco dust	Tobacco dust as preventive as soon as plants get above ground; kerosene emulsion for young bugs.
White Flies	Tomato, cucumber, etc.	KE; Nic.; tobacco dust	Tobacco dust as preventive as soon as old flies appear; injury is done by the young Nymphs.
Mildew	Cucumber, lima beans, etc.	BM	Keep vines sprayed after middle of July with BM as preventive.
Blight	Cucumber, potatoes, etc.	BM	For cucumbers, same as above; for potatoes, begin spraying when about six inches high, and keep new growth coated.
Leaf spot, rot, or rust	Beans, tomatoes, celery, etc.	BM; AC	Keep covered with BM after the middle of July; on celery late spraying should be done with AC, which does not stain the foliage and stalks.
FLOWER GARDEN AND HOUSE PLANTS			
Aphis	Various plants, mostly indoors	Nic.; KE	Two or three applications several days apart will be necessary to get the plants clean; avoid shade, dryness, and crowding.
Aster-beetle	Asters mostly	AL, strong	Usually appear quickly in large numbers; quick work is necessary to save the plants.
Mealy-bug	Coleus, soft-wooded plants, inside	KE; W	Hide in leaf axils; if only a few appear kill with match stick and alcohol.
Red-spider	Roses and other plants, indoors	Syringing	Avoid dry atmosphere; apply water with as much force as possible several times a week to foliage.
Rose-beetle	Roses, out-of-doors	AL; PG; strong	Use hand picking into can of kerosene and water in connection with spray.
Scale	Ferns, palms, and hard-wooded plants	KE; W	Dipping is most effective treatment; rinse carefully afterwards.
Thrips	Various, mostly outdoors	AL; PG; KE	Very small; they eat the leaf epidermis leaving the skeleton.
White Flies	Various, mostly indoors	Nic.; KE	Avoid any sudden shock, such as a cold draft from a window, etc.
Mildew, powdery	Roses and others	SF	Before spraying remove and burn all affected leaves or plants carefully.
Leaf spot, rot, or rust	Various	BM	Use spray liberally.

ABBREVIATIONS.—AL—Arsenate of lead; PG—Paris green; H—Hellebore; Nic.—Nicotine preparations; MO—Mixable oil; KE—Kerosene emulsion; W—Water, hot (for dipping); BM—Bordeaux mixture; LS—Lime sulphur; AC—Ammoniacal solution copper carbonate; SF—Sulphur, flowers of (for dusting). a—After; b—Before; d—Days; f—Follow up in; B—Blossoms; O—Open; F—Fall.

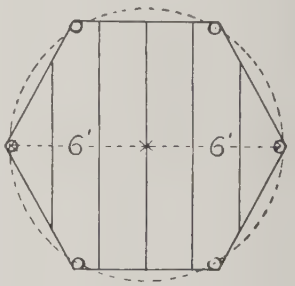
A HOME-BUILT SUMMER HOUSE WITH SCREEN SIDES

HOME-BUILT ATTRACTIONS

HERE is a summer house which a couple of bright boys with a knack for using tools can build, especially if some assistance may be had from father or an older brother. Think how much satisfaction you will get from putting your spare time into something useful and valuable like this, which will give not only yourselves but the entire family pleasure for many years to come. The construction is simple and the materials are inexpensive. The floor is made of pine boards supported on 2 x 4 inch planks or "stringers," and the roof of rough pine boards is supported on 2 x 4 inch rafters and covered over with plain roofing paper. Shingles might be used instead, but they are more expensive and it is more difficult to put them on; they would however make an even prettier house than the one in the illustration, which is given above. The roof is supported by unplaned round wooden posts which may be cedar, chestnut, or cypress, whichever can be most conveniently had in your vicinity. Select a dry, level place and mark off a twelve-foot circle; mark six points six feet apart in a straight line on the circumference, and dig holes for the posts about



CROSS SECTION

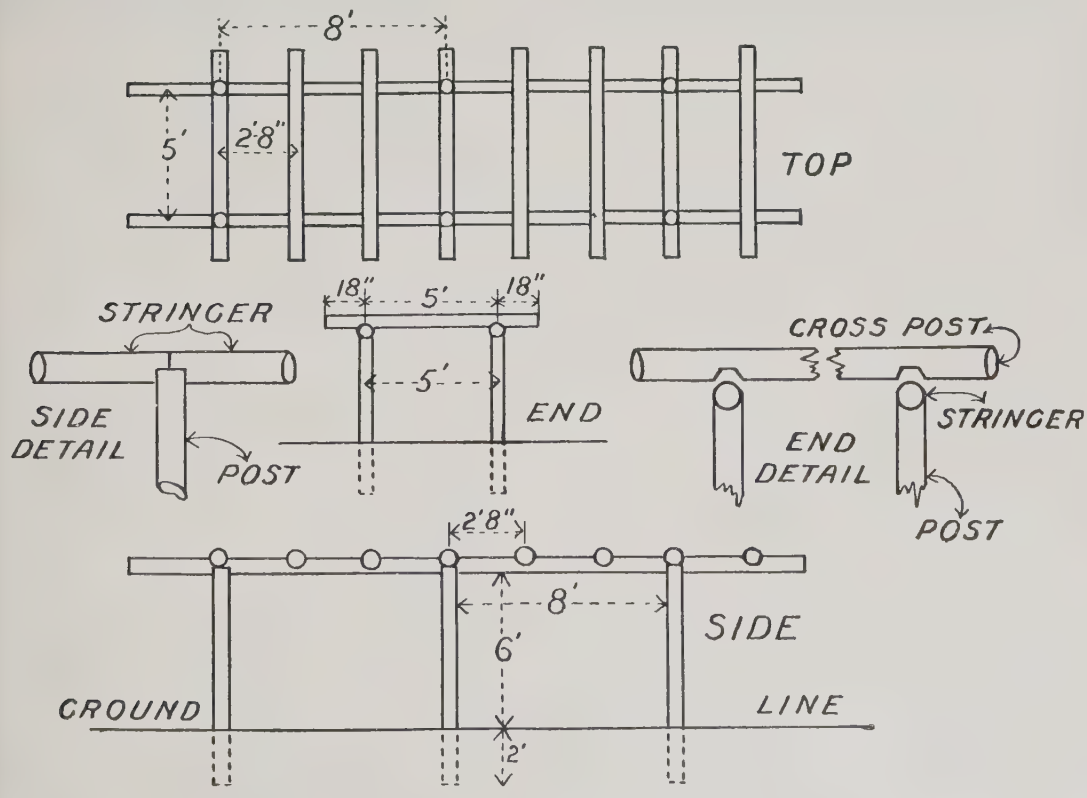


FLOOR PLAN

two feet deep; set them in very firmly, and be sure to get them exactly straight up and down by using a plumb line or a level; nail to these the twelve 2 x 4 inch stringers which go around the outside at the bottom of the posts, and be sure to get these perfectly level also. Then set up a temporary pole in the center, extending eight feet above the floor level, which will hold the first two roof rafters in place until you can make them secure. Then put in the other four, fitting them together at the top, after which the extra pole may be removed, as they will support themselves. Then put a "furring strip" — 2 x 7/8 inches — midway between each two rafters, to give support to the middle of the roofing-boards. The roofing-boards and coverings may be put on next, as you will then have a shelter from wind and sun under which to work. Place the 2 x 4 inch rafters to support the floor all parallel and two feet apart, running them at right angles to the direction in which you want to lay the floor-boards, and being sure to support them firmly on flat stones at the center so that there will be no possibility of the floor sagging. The door frame is formed by two upright 2 x 4's to hold in place an ordinary wire screen door, if it is necessary to keep out mosquitoes, and a small strip around the outside of the posts on top of the floor forms a support for the mosquito netting or wire screening. Straight-edged slabs placed two or two and one-half feet above the floor with the bark side out add to the appearance of the house and strengthen the screening. Here is an approximate list of the material required, with the prices:

MATERIAL FOR SUMMER HOUSE

6 posts	$0.75
200 feet 2 x 4's	2.75
250 feet lin. boards	5.00
100 feet furring strip	1.00
2 rolls roofing paper	5.00
Nails, etc.	.50
Cost of material	$15.00



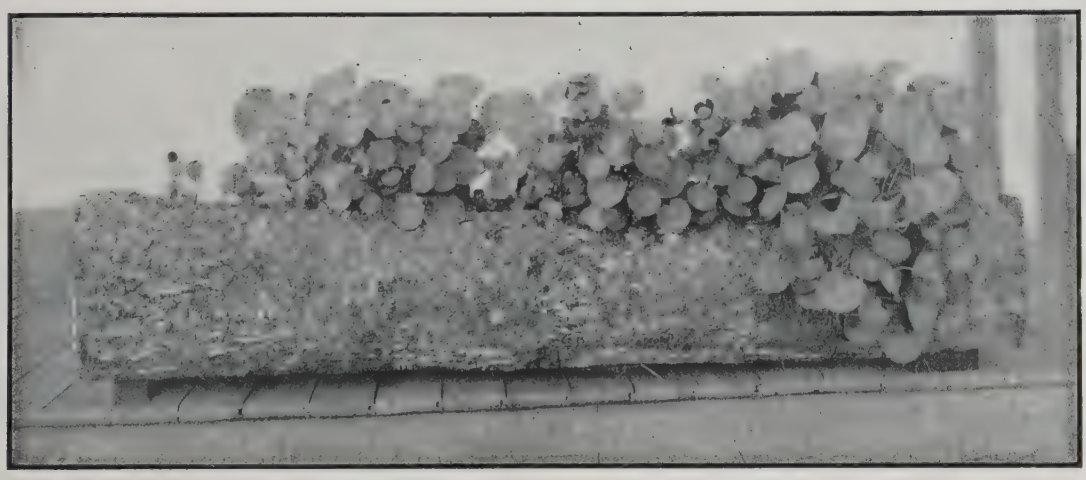
DETAILS FOR BUILDING A PERGOLA LIKE THAT ON THE NEXT PAGE

PERGOLA OF CHESTNUT POSTS, AND SIMPLE SUMMER HOUSE

HOW TO MAKE A PERGOLA

Here is a task for a couple of ambitious boys who have had some experience in the use of tools. Almost any place, even one with very small grounds, can be made more attractive by a pergola. Some pergolas are very elaborate and quite expensive, and would require the work of an experienced carpenter to put them up, but the one in the photograph you can duplicate if you are willing to do some hard careful work; and the materials will be very inexpensive, especially if you live in a small town where wooden posts can be bought cheaply from some near-by farmer. It can, of course, be made without the summer house, which is shown in the illustration and the dimensions for which are practically the same as those given on page 339. If you are in the habit of finishing up any job you tackle in good shipshape fashion, and not getting discouraged when it is half done and leaving it, this will not be too much of an undertaking for you. When it is done it will be a job you can be proud of.

You can of course make a pergola like this any length you want to; the posts are set five feet apart one way and eight the other, so it will be an easy matter for you to figure out how many you will require. They are all eight feet long, and if you can get them already barked and cut with good square ends it will save you a great deal of work. These are ordinary chestnut posts which will cost from ten to twenty cents apiece, according to the price of wood in your locality. With a rule and line and a sufficient number of small marking stakes, made out of shingles or small sticks, mark out carefully where the holes are to be made. If the ground is not stony you can probably borrow and use a post-hole digger, and this will very greatly lessen the work of making the holes. Set up the first four posts, being sure to get them perpendicular, and fit on the stringers and crosspieces, being sure that you have got everything all right before going ahead with the others. The crosspieces may be placed either two feet or two feet eight inches apart, which will make them come out



NASTURTIUMS GROWING IN A BOX COVERED WITH BARK

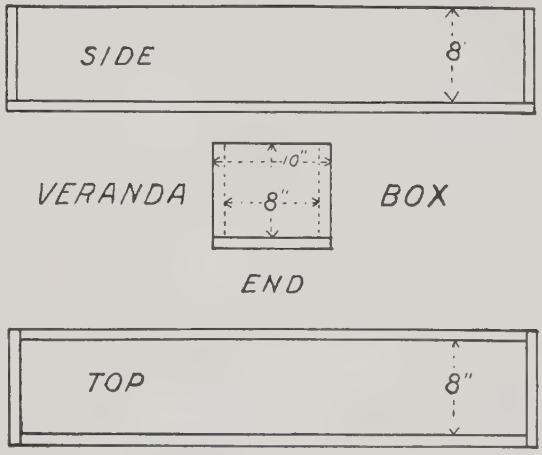
even with the posts. Measure them off carefully and cut the notches or mortises in them for the crosspieces before putting them up. It is a good plan to paint the ends of the posts which go into the ground with creosote before setting them, as this prevents rot.

The pergola makes a framework for climbing roses or climbing vines and so forth which cover it, forming a shady and beautiful path. Unless the soil near the posts is suitable for things to grow in, prepare a hole near each in the manner described for the grapevine on the following page.

VERANDA BOXES — HOW TO MAKE AND FILL THEM

Have you never found yourself pausing in admiration before some house the veranda boxes of which, filled with flowers and vines in tasty arrangement, gave it at once an air of beauty and refinement which distinguished it from all the other houses around it? Would you not like to see such an attractive feature as this added to the house in which you live? It is not a difficult task for any wide-awake boy to see to it that his own home is made as beautiful in this respect as the house in the accompanying photograph. Most of the work, in fact, can be done with his own hands, and a girl can do this as well as a boy. The work is not hard and it does not require any great skill. Moreover the cost will be very little indeed; and if you show yourself really in earnest in your desire to make improvements of this kind your father or mother will readily agree to furnish you the materials.

Plant boxes of this sort, which may be made to fit the edge of the veranda or to be put on top of the veranda railing, should be about eight inches wide and six to eight inches deep; in length they may be made just long enough to fit in between posts or to fill any space you may wish to give them. Inch board, which may be of pine, chestnut, or cypress (the latter, though a little more expensive, is far the best),



A HOME-MADE VERANDA BOX

eight inches wide, and planed on both sides, a few nails, a little white lead, and a small can of paint, are all the material you will require. If you want to do the job in a shipshape, workmanlike manner, obtain a carpenter's square, and measure the boards off carefully, marking them off with a pencil where they are to be sawed and being careful to get the marks all straight across the boards. Cut the two side pieces two inches *shorter* than the outside length of the box you want, and the two end pieces two inches *longer* than the inside width. Then paint the ends of the side pieces quite thickly with white lead, and nail or screw the end pieces firmly to these, the latter method being by far the best. Then paint the bottom edges of the sides and ends with white lead, and nail or screw on the bottom, which should be just as wide as the end pieces are long, so that you can fasten it not only to the ends but to the sides as well. The white lead is not to keep the box water-tight, but to keep the moisture from getting into the cracks and rotting the wood. The box should *not* be water-tight, and therefore, after you have made it, drill with an auger a number of half-inch holes in two rows lengthwise of the bottom and eight inches or a foot apart. Then paint the whole box carefully, being sure to get a good coat into all cracks and crevices; and after this is dry give it a second coat. The paint used may be of any color, but should be of the grade made for outside use, as this is better suited to stand the wet.

In filling the boxes place some rough or porous material (such as cinders or coarse gravel, sphagnum moss or excelsior) in the bottom of the box about two inches thick; this makes the drainage better and prevents the possible clogging up of the holes. Then fill the box to within about an inch of the top with rich yellow earth from the garden, with which, if it is a clay soil, some sand has been mixed to lighten it. Place the plants out on top of the soil until you get them in just the right position, and then set the balls of earth well down into the soil of the box and give a good watering.

SHADE AND GRAPES FROM THE SAME VINE

Of course you like grapes; everybody does; but have you ever attempted to grow your own? Possibly the fact you did not has been for the reason that there did not seem to be any room available within the narrow limits of the ground about the house. If so, here is a way of overcoming that difficulty which will at the same time furnish a pleasant shade during the hot days of summer and yet admit all the sunlight during the chilly days of winter. The accompanying photograph illustrates the results. The expense is almost nothing, twenty-five or fifty cents for the vine, according to the size you get, and fifty cents to a dollar for the small strips of wood required to make the trellis.

The upright pieces at the ends and centers should be 2 x 3 inches, planed on all sides; the lattice work may be constructed of one-inch square finishing strips or by "furring strips" which are 2 x $\frac{7}{8}$ inches. After the lattice work is put together you should give it a thorough coating of paint both for looks and to preserve it, as in the shade of the grape leaves moisture would soon begin to collect in the joints of the wood.

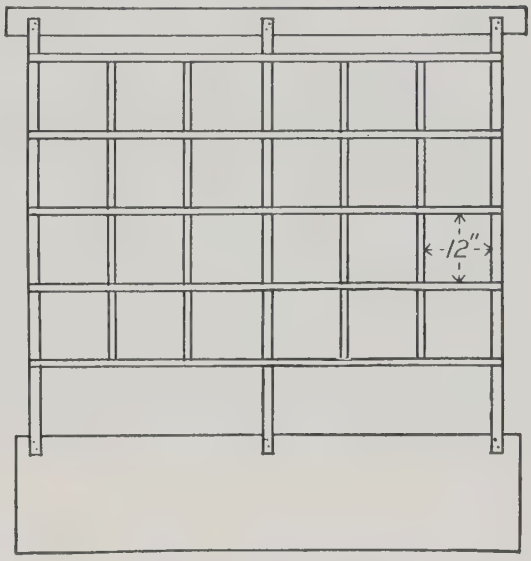
HOW TO PREPARE THE SOIL AND WHEN AND HOW TO SET THE PLANTS

As the soil just in front of a veranda is very often poor, dig a good-sized hole two or three feet deep and into this put eight inches or so of cinders or gravel, unless the bottom of the hole is already of a sandy or gravelly nature, in which case the drainage will already be sufficient. Then fill the hole up with good rich soil from the garden, or with soil made rich with a few shovelfuls of old manure, and mix in also a couple of shovelfuls of wood ashes. The plants may be set out either in late fall or in early spring, but the latter will usually give the best results, especially as a vine in such a position may easily be kept watered.

When you set the plant out press the earth in close around it as firmly with the hands as you can, and after this is done press down with the balls of your feet on either side of it. You will find an illustration of this simple method of setting the plant firmly in place on page 320 of this volume. The vine will look quite dead when it comes to you from the nursery, but if you examine it carefully you will find every

few inches along the stalk what gardeners call an "eye" or "bud." Have your jack-knife good and sharp and cut off the top of the vine after planting, as neat and clean as you can, leaving only three or four of these eyes to grow. After these begin to grow leave only three of them, training one straight up and the others, one to the right and one to the left, like the vine in the photograph. Next fall, after all the leaves have fallen off, get some friend who knows about gardening to show you how to do the winter pruning which will be necessary if you want to get the very best quality of grapes.

Enough suggestions and plans have been given to show what can be done in the vegetable and flower garden and in beautifying the home and yard. Happy they who have homes that make gardens possible, and who have an inclination to the outdoor life and such simple amateur work as has been here outlined. Such work is joyous and wholesome.



PORCH TRELLIS FOR GRAPES

HOW A GRAPEVINE MAY SERVE AS A PORCH OR VERANDA SCREEN

ACTIVITIES ESPECIALLY FOR GIRLS

ATHLETIC SPORTS AND EXERCISES FOR GIRLS

THE ambition of every earnest girl is to be strong and well. The foundation of wholesome earnest living is a healthy mind in a healthy body. A girl need worry little about her future, but she should earnestly set herself to keep her body clean and wholesome and strong. Health is the key to practically all the prizes in life — position, money, friends. The girl who is peevish and irritable because of indigestion or headaches may have soft brown hair and beautiful violet eyes, but to her friends and acquaintances she is not so beautiful as the girl whose only attraction is her healthy skin, clear eyes, and eager enthusiasm which come from good health. The girl who is well and strong is a more agreeable friend than one who is sickly. Recently at a fashionable seashore hotel, where moneyed people gathered from all parts of the country, the most popular young woman of the season was a comparatively poor girl who had accompanied her aunt. She was not beautiful; her clothes were not elegant; she could not paint or sing; she was not a brilliant conversationalist. But she was bubbling over with good health and energy. She played tennis and golf; she swam, rode horseback, and danced. It did one good just to see her walk, she was so sturdy and wholesome. She really enjoyed living, and imparted some of this joy to others.

What this girl did, any other girl can do by training the body. The body is the servant by means of which we work and play, and we succeed largely in proportion to the treatment and training which we give it.

TWO WAYS OF TRAINING THE BODY

There are two ways of giving the body the kind of training that it needs; one is by means of so-called exercises, and the other is through recreative and athletic sports such as tennis, basketball, and swimming. Some form of outdoor recreation is available to practically every young woman, whether she lives in a big, crowded city or in an obscure country spot. But it is possible that a combination of circumstances will prevent some girls from engaging in any of these. Perhaps, for instance, a girl lives in the country far from neighbors and has no companions with whom she can play tennis or any such game. Swimming and even horseback riding may be out of the question. Then there will be left to her the simpler forms of exercise such as walking, climb-

ing, and indoor gymnastics. Then, too, a girl in the city may be so situated that she cannot afford to attend a public gymnasium or to belong to any of the outdoor clubs. For girls so situated the task of keeping well and strong is more difficult. But it is such girls who are most in need of healthy bodies.

For those who do not have access to a gymnasium and are cut off from any of the pleasanter forms of exercise and recreation, Dr. Dudley A. Sargent, head of the physical education department of Harvard University, has prepared a set of exercises which anyone can use to advantage. All of these exercises should be performed every day — not once in a while.

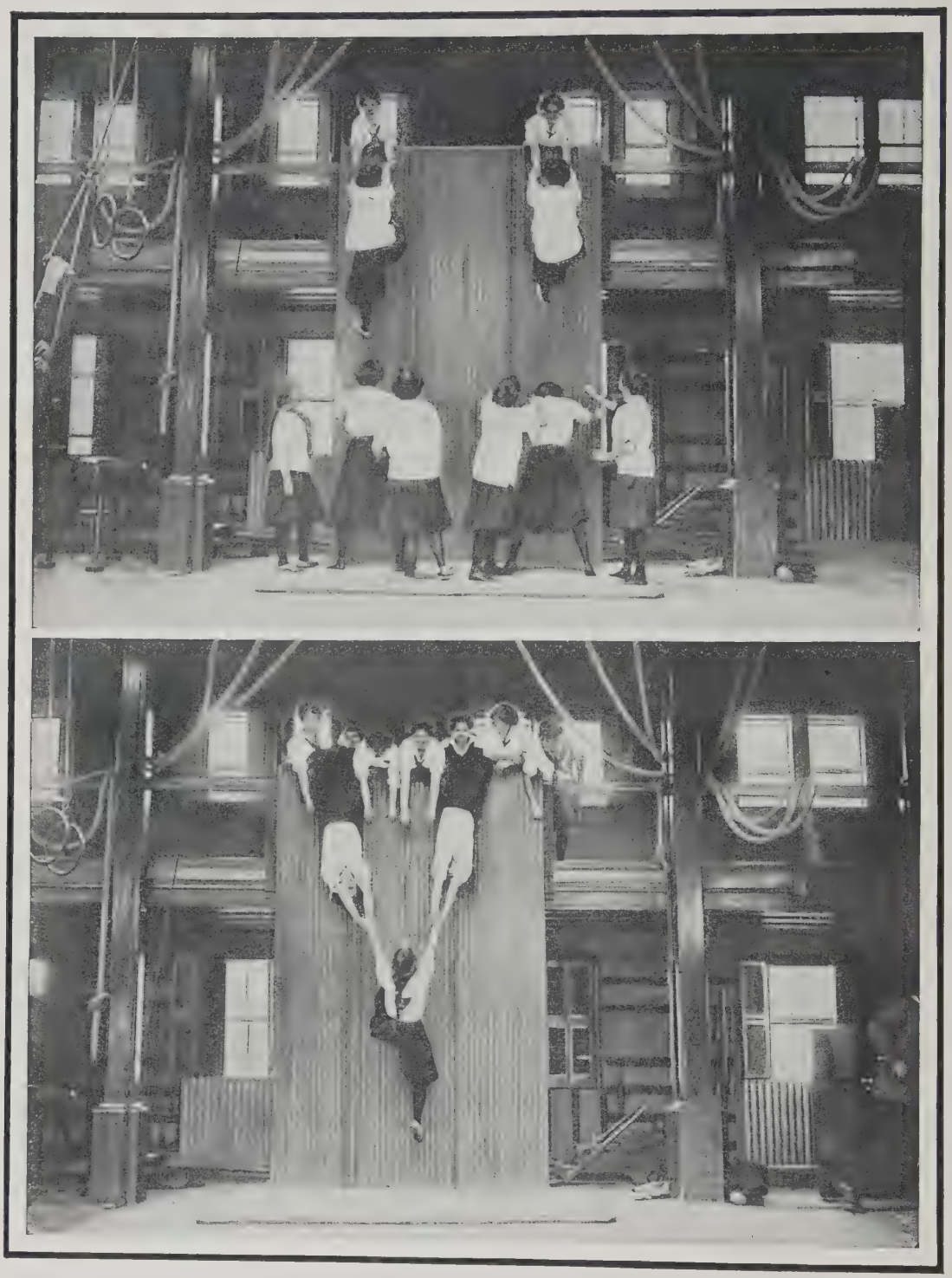
EIGHT SIMPLE HOME EXERCISES

1. *To strengthen the abdominal muscles.* Just before rising in the morning throw the bedclothes over your feet at the foot of the bed; then, while lying on the back, place the hands palms down, with the arms extended at the side of the body. From this position come forward to the sitting position, and beyond, from twenty to forty times before getting out of bed. This exercise will bring into action the muscles that bend the thighs and will strengthen the muscles of the abdomen.

2. *An exercise to reduce the thighs.* While standing erect take hold of the back of a chair to help you keep your balance. Now sit down on the heels by bending the knees and rise again to the upright position by straightening the legs. Repeat this exercise from twenty to fifty times. This vigorous exercise will bring into action the great muscles on the front of the thighs that extend the legs, as well as the great muscles of the rump, and will tend to eliminate fat from these regions and to draw the blood down from the head. For this reason this exercise should always be followed by one like the next, that tends to send the blood back to the head and trunk again.

3. *An exercise for an upright carriage.* Stand with the feet about eighteen inches apart and the hands held clasped above the head. Now swing the hands down between the feet and legs as if you were chopping wood; then bring them up over the head again and repeat the movement from twenty to fifty times. In this exercise efforts should be made to bend the back as much as possible in going down, and to straighten it as much as possible in coming up. This upward movement straightens the muscles on the back of the trunk, buttocks, and thighs, which tend to keep the spine erect and gives one a good poise and upright carriage.

4. *An exercise to straighten the abdomen.* Place a pillow or a sofa-cushion on the floor and kneel upon it. Then lean forward, extending the arms in front of the body until the hands touch the floor. While supporting the body in this position, sink and rise by bending and straightening the arms, touching the chin to the floor each time. Do this from ten to twenty times. Before beginning this exercise it is advisable to spread a newspaper on the floor



GYMNASTIC EXERCISE MAY TAKE VARIOUS INTERESTING FORMS, AS THESE WALL-CLIMBING SARGENT GYMNASIUM GIRLS SHOW

where the chin touches, in order to avoid inhaling any dust or particles of lint. This exercise will not only strengthen the muscles on the back of the arms, the front of the shoulders, and the chest, but it will also straighten the walls of the abdomen.

5. *An exercise to enlarge the lower chest.* Stand with the left arm folded across the hollow of the back, the right arm extended straight above the head, and the right foot advanced about thirty inches beyond the left foot. Starting from this position, bend forward and touch the toes of the right foot with the fingers of the right hand, then straighten up and bend as far backward as possible, carrying the right arm again to the extended position above the head. Repeat this movement from ten to twenty times, and then do the same exercise with the left arm above the head and the left foot extended in advance of the right. This is an admirable exercise for enlarging the diameters of the lower chest.

6. *An exercise to develop the legs.* While taking hold of the back of a chair, rise on the toes from twenty-five to one hundred times. This will be found a splendid exercise for developing the calves of the legs, relieving a tendency to flat foot and strengthening weak ankles.

7. *An exercise to beautify the waist.* Stand with the left hand on the left hip and with the right arm by the right side. From this position swing the right arm sidewise above the head, and at the same time raise the left leg outward away from the right leg. Return to position and repeat this movement from ten to twenty times and then change to the other side. These exercises are admirably calculated to break up the angles in the figure made by corsets and to beautify the waist and hip lines.

8. *An exercise to strengthen a girl where she needs it most.* Stand with the right foot advanced twenty-four inches beyond the left foot, and with the hands well above the hips and the elbows drawn back. From this position bend forward and with the fingers touch the floor just beyond the right foot, and immediately straighten up again, throwing the weight back to the left leg and drawing the elbows back to the sides of the body, as if rowing a boat. Repeat this exercise from ten to thirty times, then place the left foot forward and try it again from that side. This is a splendid exercise for developing the muscles of the back and loins and strengthening young women where they need strength the most.

THE "LADDER" POSE BY GYMNASIUM GIRLS, FORMING THE LETTER S

MAKING THESE EXERCISES PROFITABLE

These exercises should be followed by a cool sponge bath, a brisk rubbing down, and a few minutes' complete rest before breakfast. By beginning these exercises with the minimum number of times and persisting in doing them until they become a habit, they will do much good. Doubtless many a girl will make a wry face at these directions and say that it is all easy enough but not in the least interesting. Very little, if any, drill work is at first interesting. How much fun is there in learning the conjuga-

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THE TAMBOURINE DANCE

tion of the Latin verbs? But when one gets to the point where she can put Latin sentences together, the study of dry Latin grammar becomes interesting. The "fun" in doing such exercises as those just described will consist in watching your body slowly but surely gain in strength and grace. Keep a little notebook of measurements. Set down against the date of each day just how many minutes you gave to these exercises, and add your chest, arm, waist, and hip measurements.

EXERCISING TO BECOME GRACEFUL, AND THE EXHILARATION OF OUTDOOR SPORTS

Such exercises as these, taken day after day persistently, will not only help to keep the body healthy but will tend to make it supple and graceful. Many a girl has suffered agonies of self-consciousness in entering or leaving church, in rising to recite at school, in ushering a caller into her parlor, and so on. This is largely because she does not have her body under perfect control, and exercise will do more to give her ease and relieve her from awkwardness than any other one thing. Good looks and fine clothes will not make a person graceful and charming; without either of these a girl may be attractive and winning if she has health and well-trained muscles. We are apt to think that the chief reason for training the body is to give it great strength. This is only one of many reasons. It is as desirable for a person to be agile and supple as to be able to lift heavy weights and to undergo severe physical strains. All these qualities may be acquired through a proper training of the body. One of the ways of securing this training, as we have just seen, is by exercises such as one may do in her own home. The other way is by means of outdoor games and sports. The great advantage here lies in that word "outdoor." This means fresh air.

The exhilaration which the swimmer feels as he dives into the water and plunges through it by the strokes of his arms and legs, or which a skater feels when he is gliding over the ice with the keen frosty air on his cheeks, or that which comes to the horseback rider as he feels the eagerness of the horse under him and the rush of the air through which they are speeding — is unlike any other experience which comes to a person. The eagerness to overcome and win is a part of all these outdoor recreations. The swimmer has to contend with the danger of the water; the tennis player must make a good showing against her opponent in spite of such obstacles as the sun in her eyes and a high wind blowing; the golf player may have a poor course and weather obstacles; the horseback

rider may have an ill-tempered horse to control. All such obstacles add to the zest of these pastimes and help to make them forms of mental as well as physical training. Nothing that a girl can learn to do will bring her more live pleasure than to become proficient in some kind of outdoor sport or athletics.

The decision as to which sport or recreation to take up may often be determined by circumstances. If one lives near an attractive pond or quiet stream, some form of water sport would be the natural choice — such as rowing or paddling in summer and skating in winter.

THE WATER SPORTS

Of course swimming is the best of all exercises as a developer of the body, and should be taken up by every girl if any opportunity presents itself. Dr. Dudley A. Sargent of Harvard University has said that there is no other exercise so good to develop and strengthen the body. Practically every muscle of the body is brought into play, and the character of the exercise is such that it cannot be performed sluggishly. Swimming should always be a companion sport to rowing and canoeing if possible, for reasons of safety as well as of pleasure. Rowing offers a better means of exercise than canoeing; in rowing the strain comes more evenly and more muscles are called into play. The ideal way of rowing is with a canoe rowboat — that is if one knows how to swim. This kind of a boat is extremely light and can be made to skim over the water almost as lightly as a canoe.

Above all, do not be content just to know "how" to row or to paddle or to swim. Learn to excel in whatever you take up. Learn all the ways and moods of the lake or river or ocean on which you take your exercise; know it in its quiet moments, in its hours of storm and turbulence. Drift upon it, dive into, swim through it. You will make it your friend — it will be Mother Nature to you in one of her many guises.

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A SCOTCH DRILL

GIRL SWIMMERS AT A SUMMER CAMP WHERE MUCH IS MADE OF THIS BEST OF ALL-ROUND SPORTS

THE ATTRACTIONS OF TENNIS

Tennis requires a level spot that can be cleared so that a hard, compact floor is left. The game is simple but should be learned according to directions given elsewhere in this volume. The secret of success in tennis playing is not easy to explain. Ease and poise are necessary, and clothing will have much to do with this. Sneakers or flat shoes must always be worn; a blouse waist and a short, fairly full skirt is the proper dress. Let your costume always be such that you can be absolutely unconscious of what you have on. The hair should be arranged in a net, or just as securely in some other way. It is particularly tantalizing to try to play tennis with a girl who is constantly stopping to pick up hairpins or tuck in stray locks.

Tennis is one of the exercises that help to make a girl graceful as well as strong, and has the added advantage of being interesting both to play and to watch. Although a carefully laid-out court is necessary to expert playing, girls should not be deterred by the lack of such a court. A reasonably good back or side yard can be made to yield fun and profit. If you happen to live in a comparatively "dead" community, see if you cannot liven things up by starting the young people to get interested in tennis. If your girl friends are lacking in enthusiasm, try your brother and your brother's friends.

"HIKING" TRIPS

"Hiking" is the name given to long walking trips which are taken chiefly for exercise. All the special summer camps for boys and girls make these trips, and often it is these that are

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TOP: A GIRLS' SCHOOL CANOE CLUB ON THE CHARLES. BOTTOM: WASHINGTON IRVING HIGH SCHOOL TEAM PLAYING HOCKEY AT CENTRAL PARK, NEW YORK

looked upon as the greatest treats of the summer. There is no town or village which cannot organize a girls' walking club, and if the other forms of outdoor pleasure are impracticable, this can be made to yield unexpected returns. Where one walks does not make so much difference as *how* one walks.

The first thing for the "hiker" to consider is clothes. A short, full skirt, a loose-fitting waist, no corsets, strong seamless stockings, and sensible shoes are the dress formula for the "hiker." No girl should be allowed to join a walking trip if she refuses to wear sensible shoes; she will be the first to get tired and will spoil the walk for others. The easiest gait for long-distance walking is a rhythmical swinging stride, with the arms hanging at the side. Nothing more cumbersome than an improvised walking stick should be carried in the hands; otherwise the freedom of the body will be impaired. If lunch and traps of any kind are to be carried, they must be compactly arranged and strapped to the body in some way — around the waist or over the shoulders. In connection with walking trips, the easiest ways of climbing walls and fences, jumping brooks, and the like must be found. No rules for these things can be given; the girls must work them out for themselves.

INDOOR WINTER ACTIVITIES

Sometimes the winter season blocks the activities which have yielded so much pleasure and profit during the other months. In many cases it will be impossible to carry on systematically any kind of outdoor sport. Skating, coasting, snowshoeing, and even horseback riding and "hiking" are all largely dependent upon the whims of the weather man. Then the enterprising girl will find some indoor substitute for her energy. Except in the city there are few houses which do not have a barn or a large shed or an attic. Any one of these offers almost boundless possibilities to the ingenious girl who is really in earnest about keeping well and strong. With patience and a little help from her father or brother, a rude gymnasium can be fitted up with chest weights, punching bag, Indian clubs, suspended ropes, vaulting horses, and the like. A girl should satisfy herself that even if she is far removed from modern equipment, and is handicapped by lack of money, she still has the enterprise and patience necessary to bring opportunity to herself.

THE VALUE OF THE BATH

A large part of the good derived from exercise is due to the fact that it stimulates circulation, and helps to throw off through the lungs and the pores of the skin the waste matter of the body. Therefore a bath and a vigorous rub-down are an *indispensable* part of every kind of exercise. Through the pores of the skin the impurities of the body have been brought to the surface, and they can be removed only by means of water and friction, especially the latter. Every kind of exercise, from horseback riding to swinging dumb-bells, should be followed by a sponge bath. If a bath is impossible, one can at least go over the whole body with a coarse (preferably Turkish) towel, rubbing each part vigorously until the flesh is ruddy.

COMMON SENSE IN EXERCISE

It ought not to be necessary to utter any special warning about any kind of exercise or recreation. In all the water sports, in horseback riding, jumping, and the like there is an element of danger. But the character of these sports is such that they arouse in the girls courage, alertness, and resourcefulness, and thus minimize the dangers with which they are surrounded. Fewer girls are injured by sport than by improper sitting at their desks at school and in their easy-chairs at home. Common sense must be applied to fun and exercise just as it is to work and study. If this is done, there are no more *bugaboos* here than are to be found everywhere. Try to do well and to excel in whatever you undertake, whether it be Latin, or cooking, or swimming; that is, put your whole self into all your tasks. Do not let the thought of what someone else can or cannot do spoil your good time or the benefit which you should derive from your work and your play.

While too much time may be devoted to athletics, the danger is rather on the other side; since exercise spells health.

HORSEBACK RIDING FOR GIRLS

IT is no longer regarded as a tomboy trick for a girl to shorten the stirrups on her father's or brother's saddle, and put the family horse through his paces. Experts tell us that girls and women make as good riders as boys and men do; what a girl lacks in muscular strength she makes up in quickness and sensitiveness to a horse's moods. If a girl has a real love for the mere act of being on a horse's back, and enjoying the horse as much as she does the ride, she can control her horse without spurs or crops or lumps of muscle.

ONE OF THE HEALTHIEST EXERCISES

A noted physical expert says that the very best exercise to keep a person well and strong is regular horseback riding. Just to ride once a week, while it may give a girl pleasure, is not sufficient to keep her "fit," unless she has other exercise. Therefore, if it is health that you are after, plan to ride at least every other day. Remember that to keep your horse in a brisk trot will give you more real exercise than to urge him into the canter.

NOT A DANGEROUS PLEASURE

Some persons seem to feel that it is particularly hazardous for a girl to learn to ride horseback. There is practically no danger if one uses the same amount of common sense that is applied to other things. One must not go into deep water until she has learned to swim, neither should one get on the back of a horse until she has learned something about horseback riding. But no girl who has the opportunity should fail to learn all that she can about horses and horseback riding. Of all our domestic animals there is none that can give more pleasure and interesting companionship than the horse. A man who understands both horses and boys once said, "Show me how a boy gets on with his horse and I will tell you

what sort of a boy he is and the kind of a man he will make." This simply meant that only honest, sterling qualities can get the best results out of a horse.

THE HORSE AND THE RIDING HABIT — TWO POINTS OF INTEREST

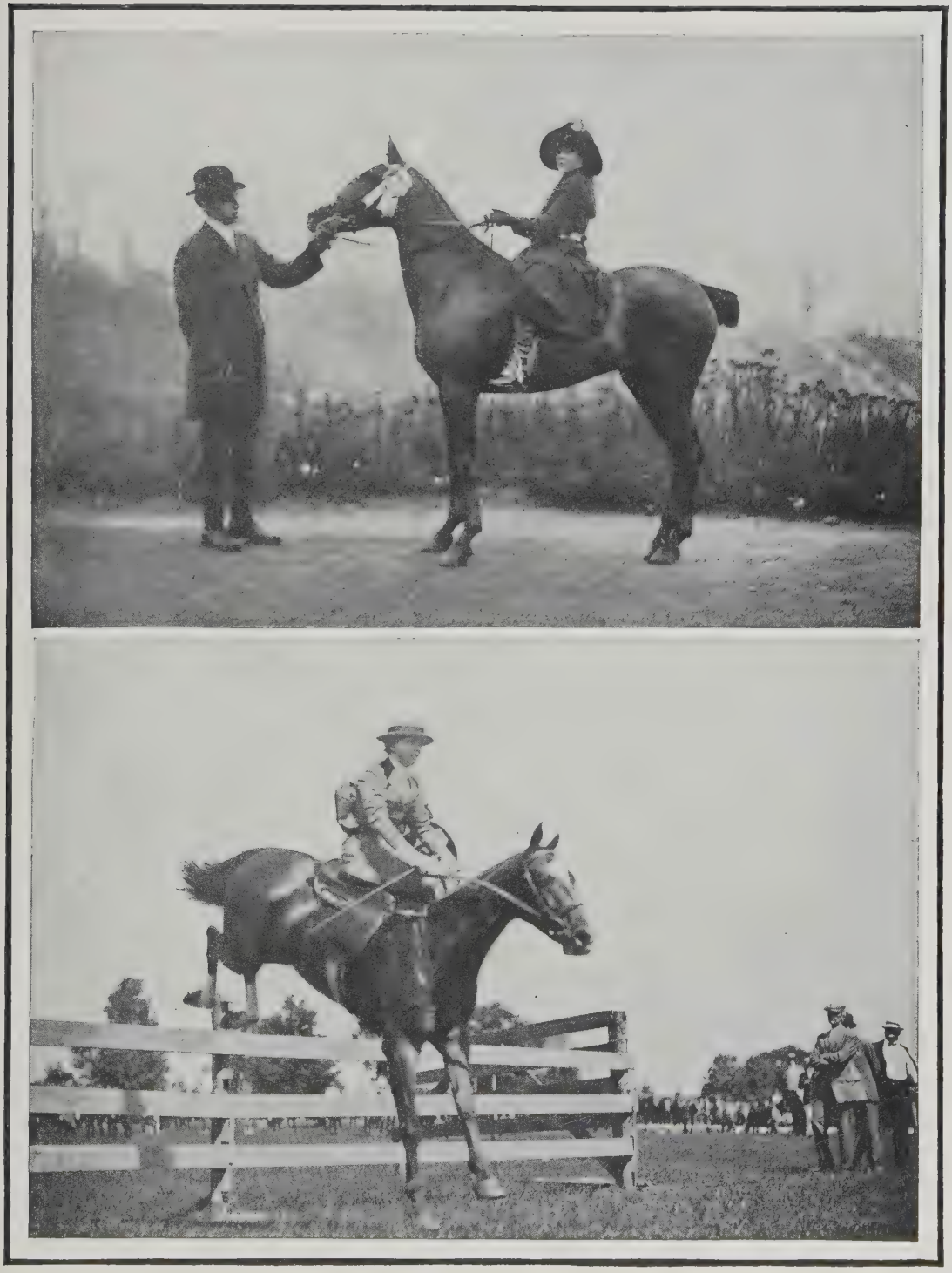
The only warning that should be always remembered is *never* to ride a strange horse. Many a horse looks perfectly amiable and safe, seldom learns any bad habits, and is completely under the control of its owner. Few girls, however, can afford such a luxury, and after all the principal thing is to learn to ride and then to ride whenever and wherever one can. Remember that the average horse is not naturally ugly, any more than the average rider.

When once a horse has been secured, the next thing to be considered is the saddle and costume. Young girls should preferably learn to ride in the cross-saddle which boys use, and

SHARP AUTUMN AIR, A SPIRITED HORSE, JOY AT ITS KEENEST

and is so when fastened to a carriage. But when he feels no restraint of harness or shafts, and only the light weight of the girl on his back, his impulse is often to kick up his heels and run.

Most of the horses that can be used for riding are what are called combination horses; that is, they have been trained both to draw a carriage and to carry a saddle. Of course, the ideal would be to own a horse that had been trained only to the saddle, for such an animal often the very same saddle will answer. Just for pleasure riding, a dark blue or a black divided skirt, such as any home dressmaker can easily make, is the most suitable. A jacket to match, a sailor or soft hat, and either leather leggings or high boots complete the costume. It is best to make the first outfit an inexpensive one. To attain comfort and to give a modest appearance should be the first considerations. Avoid freakishness in dress, for every reason, as well as freakishness of every sort.



AT REST AND IN ACTION

The little lady in the upper panel will need several years of growth and experience before she guides a horse over the jumps. The lady below seems not at all disturbed at what would terrify most of us.

HOW TO SIT IN THE SADDLE

Some instruction is absolutely necessary; if possible take a few lessons from a professional teacher. If this is not feasible, learn all that you can from some man or woman who understands horses and can ride. Always sit as far back in the saddle as comfort will permit, and with the body in an easy, erect position. Strive to overcome stiffness, and let the body sway gently to the motion of the horse. The highest pleasure can be obtained from a ride only when the rhythm of the body is that of the horse.

RIDE WITH A SHORT STIRRUP

Ride at first with a short stirrup. Do not hold the foot so that the stirrup rests on the

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MASTER MAXIM FARRALL, THE SMALLEST HORSEMAN IN ENGLAND, FIVE YEARS OLD

ankle. This is a bad habit into which one may easily fall; but a good rider rests only the tip of the foot in the stirrup with the heel well down. The purpose of the stirrup is not to hold you in the saddle, but merely to add to your comfort in rising to the trot and in balancing yourself. You should learn to hold yourself in position with the knees, so that if, as will often happen, you lose the stirrup, you will not be at all alarmed, but will balance yourself by gripping with the knees.

Of next importance to a correct position of the feet is the position of the hands. One must *always* hold the hands low, that is, against the neck or shoulder of the horse. The first impulse of an inexperienced rider is to raise her hands if she is at all alarmed or excited; and this is the worst thing to do, for it jerks up the bit and adds to the fright or discomfort of the horse. The secret of a good rider lies in the hands. This may seem strange, but every twist and turn of the fingers or wrist is instantly felt by the horse, for the reins are, of course, attached to the bit which the horse carries in his mouth. Every movement of the bit arouses his attention, and he is on the alert to do what is expected of him. But if the rider is simply twisting her hands about idly or nervously, the horse, not knowing what is expected of him, becomes restless and hard to manage.

HOW TO HANDLE THE REINS

With horses that are spirited, usually a curb bit is used, and in this case two pairs of reins are necessary, the curb reins being used only to restrain the horse if he is fractious, and not to guide him. The reins are held in the left hand; the right-hand snaffle (guiding rein) against the outside of the little finger, the left-hand curb rein between the little finger and the fourth finger; the right-hand curb rein between the fourth and third fingers; and the right-hand snaffle between the next two fingers. The thumb should be used to keep the reins from slipping.

The whip or crop is carried in the right hand, which is also held in readiness to aid the left hand in case of need.

If you start right, it is comparatively easy to acquire the habit of a correct position. What is often the difficult thing to master is to "rise to the trot" and "sit to the canter." Almost all saddle horses have at least two gaits — the trot and the canter. One must rise slightly in the saddle at every other pace forward of the trot, but this comes only with practice. When once one falls into the swing of it, however, it is like the stroke of the swimmer — something that cannot be forgotten. It is the trot which gives the rider the most exercise, but the canter is the ride of pleasure. The rider simply lets her body sway with the motion of the horse and sits as in a rocking chair.

BE FRIENDS WITH YOUR HORSE

If you own your horse, take as much of the care of him as possible, and, even if you borrow or hire a horse, saddle him yourself and at the end of a ride rub him down and pet him a little. You should make use of every opportunity to make friends with him and accustom him to the sound of your voice. Especially when you are riding you should talk to your horse; he is like a child, and wants to feel the presence of companionship.

CROW INDIAN GIRLS ON HORSEBACK

IN JAPAN, PHYSICAL CULTURE IS FOLLOWED BY WOMEN AS WELL AS BY MEN. THESE ARE JAPANESE WOMEN IN BROAD-SWORD BOUTS

FENCING AND ARCHERY

THESE PASTIMES ARE EQUALLY GOOD FOR BOYS AND GIRLS

FENCING

FENCING is both an exercise and a sport. It is also an art, but to the average person it will be merely a fascinating exercise. The fascination consists largely in the fact that one is face to face with a keen, eager opponent who is ready to take instant advantage of every mistake which you make. Fencing trains the judgment, the eye, and the nervous instinct; it gives to the body suppleness, ease, and grace of movement; and as a training for the muscles it is the equivalent of light gymnastics.

The regulation equipment for a fencer consists of foils, mask, gloves, jacket, and a first-class manual on fencing. But for the girl or boy who cannot incur any expense, all this equipment can be dispensed with — except, of course, a set of printed instructions. Smooth, rounded sticks with blunt ends can be made to serve for foils, and some simple device for protecting the eyes can be improvised by any ingenious young person. Many a boy has done his first fencing with the broomstick of his mother's worn-out broom — and many a girl also.

As a help to the person who is ambitious to become a proficient fencer, the following exercise to be practiced a few minutes each day is recommended. The positions and movements are those of actual fencing.

FENCING EXERCISE

Stand facing toward the right, with the feet about eighteen inches apart, the right foot turned toward the right and both legs bent at the knee. Hold the right arm in front of the body so that it makes a right angle at the elbow, and the left arm raised and in about the same angle back of the head.

Lunge forward with the right foot from thirty-six to forty inches, straightening the left leg and at the same time extending the right arm forward and slightly upward and the left arm downward so that it is parallel with the left leg. The left foot should remain firmly on the floor — the heel should not be raised — and when the lunge forward is made with the right leg the whole foot should rest on the floor and not on the toes or ball of the foot. Go back to the first position by straightening the right leg and retracting the arms. Reverse the position and advance with the left leg.

ARCHERY

THE use of the bow and arrow, now a favorite outdoor pastime, was at one time a serious accomplishment, important in war and for the supply of food. Skill in archery has often turned the tide of battles of the greatest importance. In this art the English excelled all other nations, and the victories of the English armies in Scotland and in France were in no small measure due to this superiority.

Not only was the skill of the English archers greater, but the English long-bow was a far more powerful weapon than others. As it is the only bow now used in the sport of archery, it is the use of the long-bow that will principally concern us in this article.

This bow is, when of full size, six feet long, perfectly straight, and flat on the back and rounded on the inside surface. It tapers toward the ends, but does not alter this contour. The notches at the ends, for the reception of the string, are usually protected with horn tips, and a handle just below the middle aids the archer to grasp the bow firmly when shooting. The handle is placed below the middle so that the arrow, resting on the joint of the thumb and first finger, may exactly cross the middle of the bow. An important feature of the long-bow is that it is narrow on the back, and gains its strength from its thickness. By this arrange-

ment the arrow leaves the string more truly and with less "wabble." The English preferred yew as the wood from which to make their bows, because of its even elasticity. It is still considered the best, although it needs greater care than some other kinds of wood. It is quickly hurt by dampness and is liable to break if carelessly used. Lancewood has a brighter and quicker spring than yew, and is stronger, but it lacks the peculiar steadiness and strength of recoil that characterizes yew. Snakewood is also used, but more frequently to back bows made of some other wood. While great skill goes into the manufacture of a fine bow, any boy skillful with tools may make himself a very good one. He need not make it the full six feet in length, and it is not necessary to use horn tips. A good piece of second-growth hickory will make a very good bow. For a bow six feet long the arrows should be not less than thirty-four inches long. The standard English length was one yard. These arrows are made of very light spruce, perfectly straight, and deeply notched. About an inch above the notch three feathers are glued on. These are preferably the feathers of a peacock. Turkey feathers answer very well. They are trimmed to three inches long and half an inch high at the notch end of the arrow, tapering down toward the point. Care must be taken to place the feathers evenly, and so that the fibers will not roughen as they rub on the hand and bow in shooting; that is, they must be placed with the quill end of the feather toward the point of the arrow. Barbed points are never used in sport.

Such a weapon, properly made, will shoot with great power and accuracy. A man may be killed with it more certainly and at a greater distance than with a revolver. It held its own very well with the musket, and not until the invention of the modern rifle did it become wholly obsolete for war.

ROBIN HOOD, GREATEST OF BOWMEN

When England was largely forest land, and great herds of deer and wild hogs roamed from one end of the island to the other, the skillful archer with his bow and sheaf of arrows was quite independent of other means of livelihood. The violent political life of the times left many men outlawed to subsist as they could. Of these none was more celebrated than Robin Hood, who, although an outlaw, is one of the great popular heroes of English history. He lived in the twelfth century and is said by some to have been the exiled Earl of Huntington. He gathered about him a band of bold outlaws, who, concealed in Sherwood Forest, sallied forth to levy tribute from rich barons and occasionally to take part in border warfare. Friar Tuck, Maid Marian, Little John, Will Scarlet, and Alan-a-Dale were some of his companions, all of whom have a prominent place in English song and story. Robin Hood is said to have been so skillful with his bow as to be able to split a peeled willow withe at one hundred yards' distance. The Robin Hood stories are legendary, but that such a man lived there can be little doubt, and of the skill of English bowmen many a battlefield gives abundant witness. (For some of the Robin Hood stories, see Volume V.)

THE AMERICAN INDIAN'S BOW

The bow used by the American Indian is a much less formidable weapon than the English long-bow. It is shorter and wider. The arrows are also shorter. Undoubtedly the Indians attained to great skill in the use of this dangerous but inferior weapon. Deerfoot, a Shawnee Indian, is the Robin Hood of the American woods. He is said to have competed with the pioneer riflemen, to their disadvantage. He was an exile from his own tribe. Many wonderful stories of his skill are told. The Indians of the plains successfully hunted the huge buffalo with the bow and arrow.

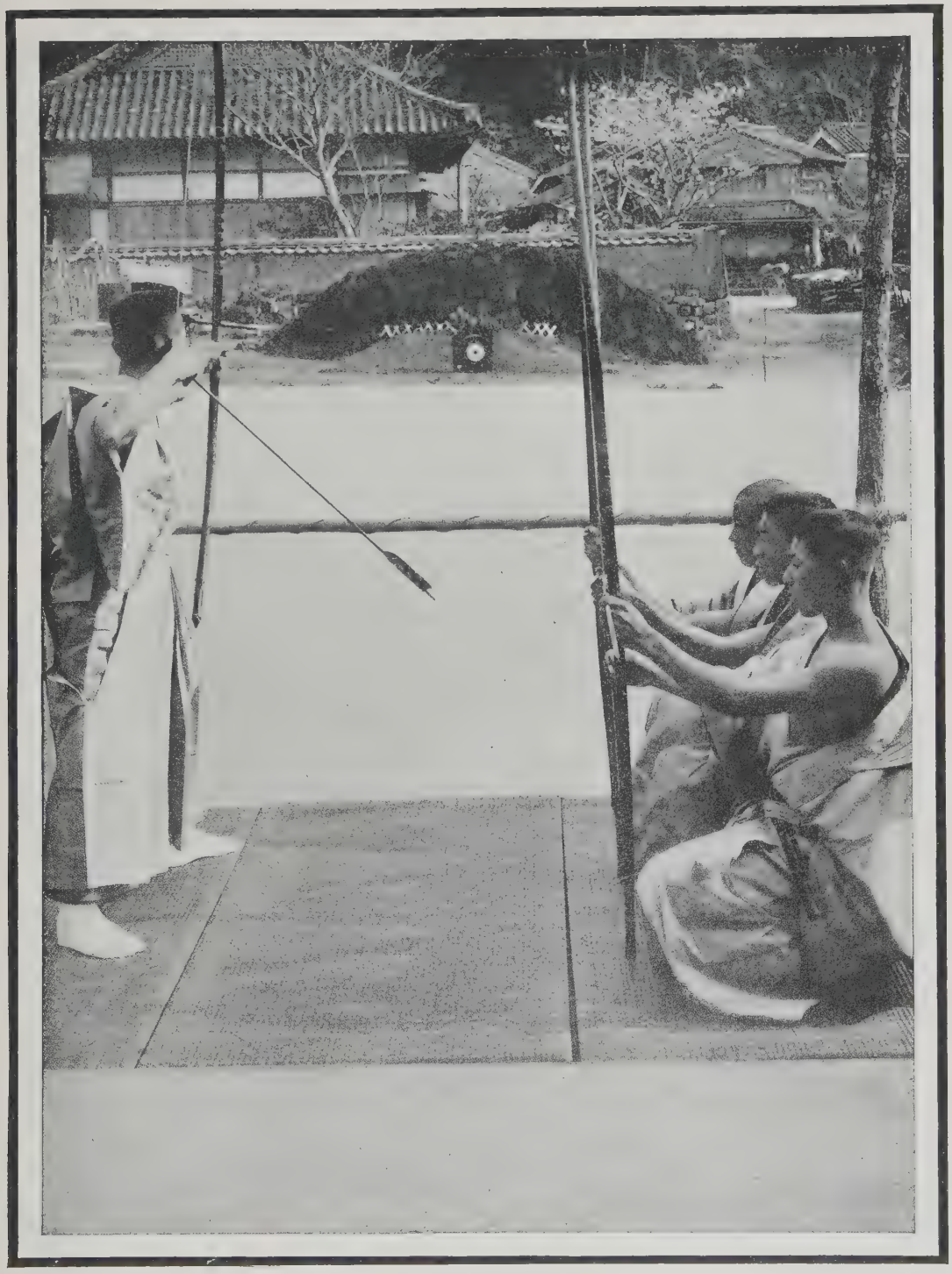
HINTS ON THE USE OF THE BOW

Do not use a bow that you cannot easily draw and hold without tremor.

The attempt to use too strong a bow is a serious handicap to progress.

Always draw the bow to the arrow's tip. Accuracy cannot be attained by shooting with a half-drawn bow.

Stand with left side (if left-handed reverse these directions) toward the target, the feet



JAPANESE ARCHERS

Boys testing their fate by arrows in the temple court.

well together, the left arm holding the bow extended at the height of the shoulder. Take the string on the tips of the three middle fingers with the arrow between the first and middle fingers. It will be necessary to wear some protection in the way of a shooting glove for these fingers. Draw toward the right ear, which will be nearly reached by an arrow of average length. The best shooters say that they do not aim along the arrow, but fix their eyes on the target and move the arrow instinctively toward it. Only experience will teach the proper elevation for the distance to be shot. A bow will shoot point-blank, or practically so, about twenty yards. Over that distance there must be some elevation, which increases as the distance increases. One hundred and twenty yards is the longest distance used in modern target practice. One hundred yards is the extreme distance for most tournaments and most archers. Sixty yards is the average distance. The best shot at sixty yards is usually the man who wins a tournament.

Great care must be taken at the instant of discharging the arrow to hold the bow very firmly and to let go the arrow and string without pulling out of line. The attainment of this firmness and strength of wrist is the secret of good shooting.

Do not leave your bow strung when not shooting. Relax the string while awaiting your turn.

In America as well as in England the sport is organized into a national association which holds annual tournaments.

Archery is a graceful and enjoyable pastime, well repaying the time and attention given it. It should become increasingly popular in this country, since it requires only a simple outfit and can be practiced almost anywhere in the open.

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INDIAN GROUP IN A PLAYGROUND FESTIVAL

THE CAMPFIRE GIRLS

WHEN the Boy Scouts came into being there was many a girl who felt almost envious of the jolly times and out-of-door life her brothers and cousins enjoyed. What fun the Scouts had starting off in their uniforms! What joyous days they spent at their camps in the woods! Why must girls always be sitting about on a stupid piazza and have no part in all this glorious life in the open air? And it was in answer to this craving that, through the genius of Dr. and Mrs. Luther H. Gulick, the Campfire Girls of America was formed.

This organization, like the Boy Scouts, takes girls for outings under the open sky and offers to them all the wholesome sports which, in the past, have been chiefly the property of their brothers. So popular has the movement become that already in the United States and Canada there are sixty thousand girls divided into four thousand different camps. During the summer these girls dress in Indian costume and live in forest or country, strengthening their bodies by out-of-door exercise, and training their hearts to kindness, generosity, and thoughtfulness through their daily life together. They paddle their canoes with swift, skillful stroke; they swim, row, tramp, and climb. As they mingle in this healthful nature world they are constantly learning of the trees, plants, and flowers; they read Indian legends and forest lore, drinking in the beauty and poetry of these tales; they learn to build their campfires; prepare and cook their own food. And all the time that they are busy with these simple duties they are having the most glorious of good times that girls ever had.

What a splendid thing it is after all to be a girl! How beautiful to grow up with a share in

FOUR CAMPFIRE GIRLS

Top: The Campfire Girls' hand sign; ceremonial dress. Bottom: Winning an honor in handicraft; stringing honor beads on a leather thong.

the home-keeping—to help with the many little tasks a girl can do, and to look forward sometime to the sacred career of being a home-maker! For to make a home one must be well and strong; must be able to cook; must be helpful and patient toward others. And so the Campfire Girls try to aid each of their members to become all that a sweet and noble girl may become. The watchword "Wohelo" is derived by putting together the first two letters of the words: Work, Health, Love.

THE RANKS

In the organization there are three ranks. When a girl joins she becomes a Wood-gatherer, and promises to follow the law of the Campfire Girls, which is "to seek beauty, be trustworthy, give service, hold to health, pursue knowledge, glorify work, and be happy." After she has been a regular member of a Campfire at least two months, has attended six weekly and two ceremonial meetings, has selected a name and symbol, has made her bead headband, has her Indian dress made and ready to be decorated with personal and Campfire symbols, and has won at least ten honors, she is given by the Guardian of the Camp a silver ring as an emblem of her rank.

Having performed her duties faithfully she is in time promoted to be a Fire-maker and is entitled to wear the Fire-maker's bracelet. When accepting this new honor she stands before the fire and repeats: "As fuel is brought to the fire so I propose to bring my strength, my ambition, my heart's desire, my joy, my sorrow to the fire of humankind. For I will tend, as my fathers have tended, and my fathers' fathers since time began, the fire that is called the Love of Man for Man—the Love of Man for God." In addition to her prescribed duties every Fire-maker must be able to state the causes of infant mortality in summer, the benefits derived from good milk, the laws of personal hygiene, and the rules for first aid to the injured.

Then follows the rank of Torch-bearer—the highest rank the Campfire Girls have to bestow. The name of Torch-bearer signifies "The Light which has been given me I desire to pass, undimmed, to others." The Torch-bearers are usually the oldest girls, and as they must in the near future take up a woman's work in the home and in the community it is their duty to learn all they can of this larger life. They must seek to better health conditions in the home, school, factory, farm, and mine. Even a girl can study these subjects, under direction, and aid them in her modest way. Then the sanitary conditions of markets, bakeshops, and all establishments

WORKING ON HER OUTFIT

handling and distributing food must be improved. Clean and healthful personal habits of life are to be founded and fostered. Surely the Torch-bearer will not lack interesting tasks! On every hand they confront her, and no duty is too slight to be scorned, or no girl so helpless but that she can do her small part toward the causes for which all noble Christian women everywhere are working.

Together the Campfire Girls prepare themselves for the life of service awaiting them in the great world. In coöperating for the good of their organization and for each other's good, sensitiveness, jealousy, thoughtlessness, must all be thrust aside that each girl may become

loving, kindly, and generous. Is it any wonder that with so many beautiful and interesting things to work for the Campfire Girls have so many members? Then to further the prosperity of the camps there is *Wohelo*, the attractive little magazine with its myriad of suggestions for girls; and song-books with walking, boating, swimming, tramping, diving, and working songs; songs to guests; resting songs; mother songs; and fire songs to the leaping flame about which the girls dance or sit. Besides the attractive Indian dress which every girl will delight in there are, if desired, suits for boating, tramping, climbing, and bathing. These can be procured from the Campfire Outfitting Company of New York. There are, moreover, beads especially made for the Campfire Girls: the red bead of health-craft, suggesting red-blooded life; the home craft bead of flame-color; yellow for business; green for hand craft; brown for camp craft; blue for nature love; the honor bead of purple; the bead of patriotism—red, white, and blue. With these beads come the leather thongs on which to string them.

THE "BLUE BIRDS"

In connection with the Campfire Girls there is also an organization called the "Blue Birds" for the little sisters of camp members. The Blue Birds are expected to sing, grow, and help, and any girl from six to twelve years of age may join. When she is twelve years old she may become a Campfire Girl and remain in that organization from the time she is twelve until she is twenty. A group of Blue Birds is called a Nest and on entering a child is first a Nestling; she then becomes a Fledgeling; and lastly a Flier. The Nestlings dress in downy gray with plumage of blue, cinnamon red, or grayish white, which is added as a reward if they sing, grow, and help. A Fledgeling wears a blue cap, and a Flier blue wings. All Campfires or Blue Bird Nests are started by a Guardian, who receives authority to do so by applying to headquarters and who takes upon herself the responsibility of supervising and overseeing the work, advising the girls, and awarding the honors.

Each little girl in the Blue Birds:

1. Should have a doll family. The dolls should have names and relationships and clothing; there should be doll parties, doll schools, doll houses, etc.

2. Each girl should have some sort of garden.

3. Each girl should learn to play such games as hop scotch, blindman's buff, croquet, London bridge, etc., and play peaceably with other children.

4. Each girl should learn five folk dances of a simple sort, such as the Shoemaker.

5. Each girl should learn and sing all the verses of ten simple songs selected by the Guardian.

"TO SING, TO GROW, TO HELP"

First, make a doll's house, thus learning to drive nails, saw boards straight, etc. For furnishing, weave baskets from raffia; make dolls' hammocks from twine; model dishes from clay; cut out dolls and furniture from paper and cardboard; color pictures and dolls' dresses. Also learn four lullabies to sing to dolls and Mother Goose rhymes to tell to dolls. Sing when tempted to scold someone. Wear a smile when disappointment comes. Name five trees correctly, and as many flowers as possible. "Sing" is the watchword for this group.

Second, to "grow," knit a washcloth. Do not buy candy for one week. Save money enough to buy a doll for some child who has not one. Do not tease or beg for anything for a week. Do not bite the nails for a week. Learn to thread a needle and make a knot in the thread. Have a garden and water it. Put the bed to air when you rise in the morning. Come to the table with clean hands. Do not eat between meals for a month. Be in bed not later than eight o'clock every night for a month. Know how to tell the time. Brush your teeth every day.

Third, to "help," feed the birds in the winter, pick up paper and rubbish in your yard and in front of your house. Do not throw things on the streets or sidewalks. Dress yourself in twenty minutes every day for a week. Make your own bed neatly every morning for a week. Dust and keep your room in perfect order for a week without assistance. Sew on six buttons. Clean your shoes for a week. Help set or clear the table for a week. Help wipe the dishes for a week.

THE GIRL SCOUTS

PARALLEL to the Campfire Girls and resembling even more closely the Boy Scouts in many of its methods is the national organization of Girl Scouts. The Boy Scout movement in England was quickly matched by a sister organization, the Girl Guides. Mrs. Juliette Low, an American visitor in England, and a personal friend of Sir Robert Baden-Powell, was greatly impressed with the possibilities of this movement, and founded on her return to America a similar organization of Girl Guides, enrolling the first patrol in Savannah, Georgia, in March, 1912. In 1915 national headquarters were established, and the name was changed to Girl Scouts.

Readers of this book will be interested in one point which the Girl Scout organization stresses,— that the basis of the movement is the individual girl. "Any one girl anywhere who wishes to enroll under our simple pledge of loyalty to God and country, helpfulness to other people and obedience to the Scout Laws, and is unable to attach herself to any local group, is privileged to become a Lone Scout. The national organization will do its best for her and she is eligible for all Merit badges which do not depend upon group work." Girls who are interested should write to the Girl Scouts of America, New York City.

The ideal unit for the girls, as for the boys, is the Patrol, consisting of eight girls. Beyond this are the Troops, made up of one to four Patrols, presided over by a Captain, and the Community Councils. "From the youngest Lone Scout up to the National Director, the organization is democratic, self-governing and flexible, adjusting itself everywhere and always to local circumstances and the habits and preferences of the different groups. It is not only non-sectarian, but is open to all creeds and has the enthusiastic support of all of them."

In principles and practice the Girl Scout organization resembles closely that of the Boy Scouts. The motto is "Be prepared"; the slogan, "Do a good turn daily"; the promise, "On my honor I will try — to do my duty to God and my country — to help other people at all times — to obey the Scout Laws." The Laws are tenfold:

1. A Girl Scout's honor is to be trusted.
2. A Girl Scout is loyal.
3. A Girl Scout's duty is to be useful and to help others.
4. A Girl Scout is a friend to all, and a sister to every other Girl Scout.
5. A Girl Scout is courteous.
6. A Girl Scout is a friend to animals.
7. A Girl Scout obeys orders.
8. A Girl Scout is cheerful.
9. A Girl Scout is thrifty.
10. A Girl Scout is clean in thought, word, and deed.

The Girl Scouts emphasize home and civic duties, into which they throw themselves with all the enthusiasm of which girls of the 'teen age are capable; but their special distinction is the outdoor life, which they cultivate in every month in the year. Every one has seen the troops starting off on a "hike," uniformed, businesslike in their intentness and absorption in their plans, eager, and happy. It has been said by one of their leaders that "a camp is as much a necessity for the Girl Scouts as an office headquarters." It is the ambition of every group to spend not only hours but days and nights in the open, and the honors come freely to those who cultivate the wholesome outdoor activities. The Handbook of the order, like that of the Campfire Girls, is a veritable manual of outdoor life. But with the urge for happy, energetic play and work, come the higher ideals of service which breathe through the entire organization, uplifting it from a mere health or recreational organization. A Girl Scout learns what she learns in the thought that it may be of service to others as well as to herself, and that it is her business to be on the lookout to make it of such service. A nation is doing well by its boys and girls when it fosters in its communities such organizations as the Boy Scouts, the Girl Scouts, the Campfire Girls, and the Knights of King Arthur. The very fact that they are not purely local adds greatly to their usefulness. It is good for a boy or a girl to belong to a national organization.

A YOUNG GIRL TRAVELING ALONE

SUPPOSING you are a young girl and it is necessary for you to take a long journey, passing through a large city, like, for instance, New York, where you must change cars. What are some of the things you should and should not do?

In the first place you should prepare for your journey. Notify the people where you expect to go that you will leave on a certain day and by a certain train. Be definite about the time of leaving, and as you have time-tables get the number of the train and note carefully that you give yourself plenty of time in New York for the change of trains and the transfer of baggage. If you can get it you should inclose a time-table to your friends with the train you intend to take marked. In this way, if it is not possible for you to get through according to the schedule you plan, those who expect you will have a clear idea of the time-tables and will meet the next train by which you could arrive.

WHAT SHOULD YOU CARRY IN YOUR POCKETBOOK?

Money, you say, and very naturally that is essential; but like so many other good things it should not be taken in too great quantities. Have a reserve supply. Take enough cash to see you through in comfort, but do not carry a dollar more than you deem necessary for the trip and its emergencies. You can take your reserve supply in various ways, by bank checks or the travelers' checks issued by the express companies. These are as good as cash at any reputable hotel or store. You will then need but little real money, and will not expose yourself to thieves by having a fat purse.

What else besides money or its equivalent shall you take? Your *through* railroad ticket, if it is possible to purchase it. This avoids buying in New York and insures transfer of baggage in the city without annoyance to you. Then you must have your name and address about you in several places, and it is wise to have it in your purse or hand bag written by yourself, so that if any question of identification comes up you can prove that you are you. In this case your own signature should be reënforced by having your parents write on a card:

"In case of accident, or if necessary in any way, communicate information about my daughter Anna Margaret Smith to me at once at my expense.

(Signed) John William Smith

Business address
18 Washington Road,
Reading, Pennsylvania

House number
1813 Maple Street,
Reading, Pennsylvania

Phone Main 1765K"

"Isn't that a great nuisance?" It is a great safeguard, and it is wise to heed the motto, "It is better to be safe than sorry."

A FEW QUESTIONS YOU MIGHT ASK

Shall I take a parlor car? That depends upon your parents' wish and your financial condition. There is no reason why a girl should not be as safe in a day coach as she is in a chair car, although she is sometimes obliged to share her seat with a stranger.

Suppose I have to travel a long distance, what kind of car shall I take? A sleeper. Then you have a section to yourself and a lower berth entitles you to the seat facing forward.

What shall I do when I get ready to retire? Ask the porter to make up your bed and while he is doing so take your little hand satchel and your strictly essential toilet articles and use them in the ladies' dressing room.

Shall I put on my bathrobe there? No. Some people who travel a great deal have what is known as a "sleeping car robe," a loose-fitting garment of quiet dark color which they don in the dressing room; but a young girl traveling alone can easily undress and dress in her berth.

Isn't it dark in the berth when the curtains are drawn? The writer made several all-night trips before she discovered that little electric-light bulbs were inclosed behind a metal cover at the side of the car window; so you may profit by her experience and get undressed in as

bright a light as though you were at home. Put your money and valuables in your little bag and place it under your body, not under your pillow.

THOUGHTFULNESS AND CAUTION

What if I oversleep in the morning? Ask the porter to call you early and you will have more time for uninterrupted use of the dressing room: and right here let it be noted that the good birth and fine bringing up of a lady, a real lady, is shown by the consideration she has for the comfort and happiness of others. Be expeditious in your movements. Do not monopolize the glass or any of the appointments, since they are the property of others for the time being quite as much as they are yours. Leave the bowl clean, and put the soiled towel you use into its receptacle, not on the floor for others to walk over.

If I travel in a day coach or even a parlor car, is it proper for me to talk to my seat-mate, if she is a lady, or to the occupant of the next chair? This is just the point where the writer, who has had long years of experience in traveling herself and in advising schoolgirls about their travels alone, wishes the undivided attention of every girl reader. While it is never wrong for a young girl to answer civilly and respectfully a remark of a casual nature addressed to her by a woman, traveling by the same train or in a railroad station, it is very unwise to get into conversation with anyone. Can't I tell where I live or where I am going? I answer most emphatically, and with all the ardor of one who loves girls and who knows the dangers their youth and innocence expose them to, No. Conversation with strangers is dangerous and should be discouraged when straying from the merest generalities about the weather or the temperature of the car.

WHY IT IS WISER TO KEEP YOUR OWN COUNSEL

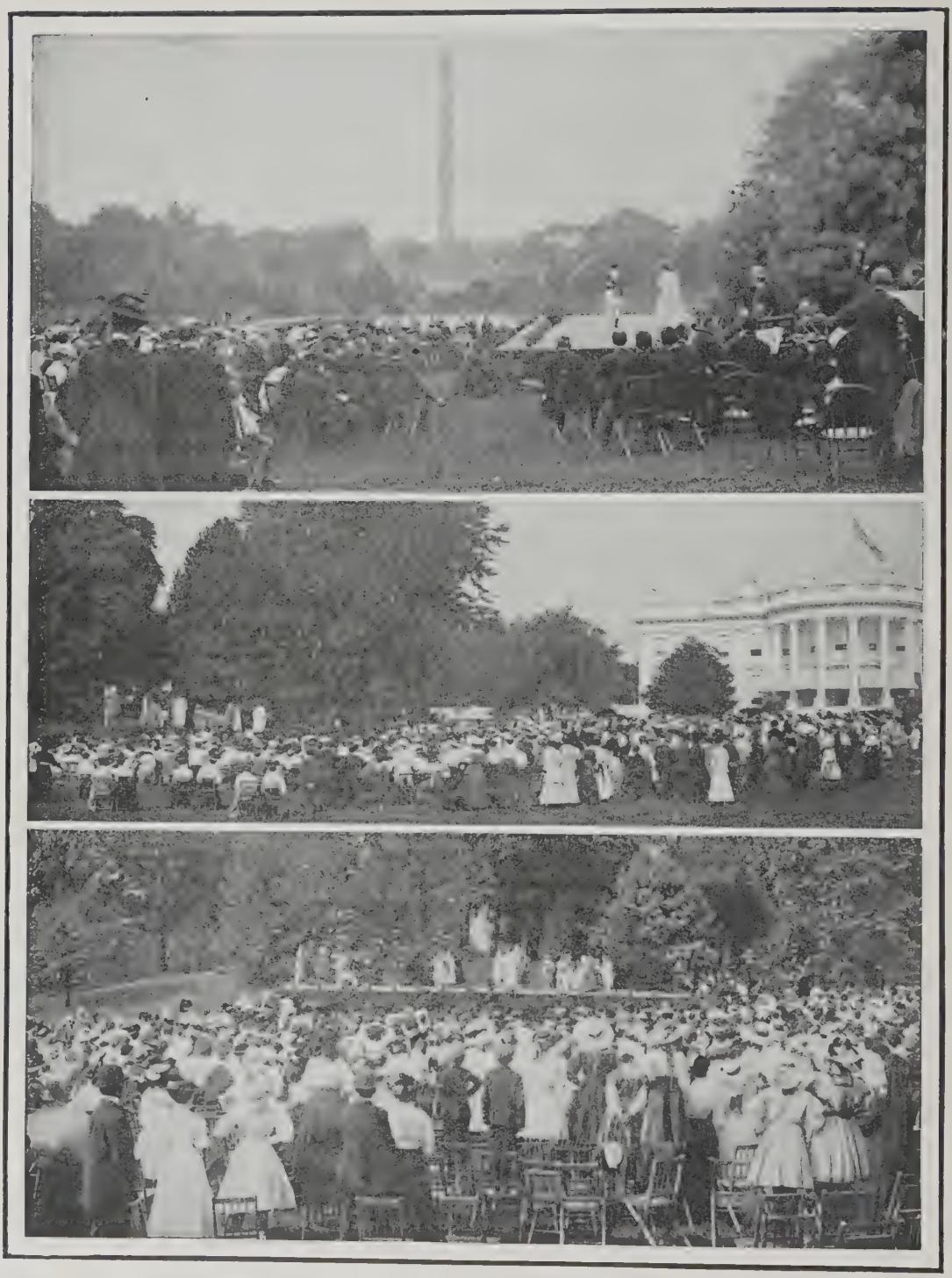
What shall I do to amuse myself? Provide yourself with something to read, and when you get tired of looking out of the window or of thinking, you can doze off to dreamland with the handle of your hand bag tucked over your arm in such a position that if anyone were to disturb it you would awake. But no matter how tired you may get do not grow confidential with your seat-mate or neighbor, even if she be a lovely white-haired old lady with a dress of finest material and immaculate collar and cuffs. She may look like your dear old grandmother and she may be one of the best women on earth; but vice as well as virtue often clothes itself in the garments of refinement and respectability, so that the woman whose tone of voice and general bearing are those of a lady may have the worst possible designs on you, and your unsophisticated remarks about yourself and your destination may give her just the chance she is seeking.

WHAT TO DO WHEN YOU ARRIVE, AND AFTERWARD

When I get to New York, what shall I do? If you change stations, ask a uniformed employé for directions about getting from one station to another. A train porter will show you the way and carry your hand baggage for a dime fee. Take a street car after inquiring of a policeman or the conductor, if the car goes where you desire. You are safer in a street car than in a taxicab or public automobile. Do not have heavy baggage with you. "Travel lightly" is as sound advice for those who remain in America as for those who go abroad.

How can I get the train I desire in a great station like the Grand Central in New York? You have your tongue and your railroad ticket; use both and direct your inquiries to employés in uniform. Keep cool and composed outwardly even if the vastness of the station and hurrying throngs are a bit confusing. Do not drift aimlessly about like a ship that has lost her rudder. When you have shown your ticket at the entrance gate leading to the train shed, you may think that you cannot get on the wrong train, and the chances are that you will not, but ask the conductor or the brakeman who stands by the train entrance if this car goes to Jenkinsville, or whatever your destination may be.

Be natural, use your common sense, ask questions only of the men in uniform, be discreet, and you will have no trouble.



A PAGEANT AT THE WHITE HOUSE

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PAGEANTS AND FESTIVALS

WITH the beginning of the twentieth century there has been in America a wonderful revival of the ancient art of pageantry. All over the country, in schools, villages, colleges, and cities there have been given within the last ten years festival performances celebrating historic anniversaries, holidays, and other special occasions. The variety in the pageants has been almost as great as their number. Indeed, the infinite range of possibility within the limits of a pageant is one of its greatest charms. A play has certain fixed requirements. It must have a stage, and there are limitations as to time in which the action took place, number of scenes shown, and setting presented. A pageant is free from any of these restraints. It may be a set of historic scenes, covering a period of five hundred years, and linked together only by being in chronological order. It may be a May party with scenes, folk dances, and music framed into a varied afternoon performance on a lawn turned for the time being into an old-time village green. Or it may be a carefully thought-out representation of some central idea with scenes as closely interwoven as in a drama.

All these performances are entitled to the name "pageant," though the out-of-door performances are following most closely their classic and medieval forerunners.

In the group of pictures here presented we have examples of each of the types of pageant. The heading is a scene in a patriotic pageant at the White House, with Columbia surrounded by her loyal daughters. The other pictures taken on the White House grounds show the most conventionalized type of performance, practically an out-of-door play, given on a stage, though with enough of variety in its kinds of scenes and of procession to entitle it to the name pageant. In the garden fête with children in costume we see the simplest form of all. These little girls in costume are going through folk dances before a sympathetic audience as a part of a holiday celebration.

The Independence Day Pageant, given by school children, is an example of one of the most significant and popular types of festival. Pageants are never studied performances, planned and rendered by professionals, or even by a small group of amateur players, but popular festivals in which all the people join as an expression of their enthusiasm. They are of democratic origin, born in the days of ballads, folk songs, and Maypole dances, when the feelings of the simple village folk found their natural outlet in such festivities. It is this democracy which makes them fit so well into our American life of the present day. They offer an opportunity both for an

expression and a stimulation of our community life. Nor is there any more healthy sign of the return of the play spirit to America than in these gatherings in cities, colleges, and towns of all the people for performances in which everyone may have a part. Percival Chubb, Percy Mackaye, and many other leaders in dramatic lines believe that for the first time since colonial days we are developing a representative expression of community life, and they even look so far as to see the possibility of an original American drama resulting from these scattered impulses.

For a school or town the most successful forms of celebration have been those of patriotic festival games, or history. In New York City members of some of the great schools where two and three thousand pupils are housed under one roof have worked out together pageants representing various periods of history and literature which were being studied in the various rooms, each group contributing according to its own ideas a scene of processional or tableau indicating its part. Towns and villages have been most successful with historical pageants. In tiny villages and cities interested leaders have studied the records of the past— often getting their best ideas from the stories of some elderly person who could tell stories told him by his grandfather— and have planned a set of scenes in which everyone took part, which began with Indian ambuscades and came down through the days of household spinning and weaving to Revolutionary and Civil War episodes and modern labor unions and factory or merchants' displays. This is something which is practicable in every community of whatever size, and those who have undertaken such celebrations and carried them through declare themselves well rewarded for their effort by the interest of their discoveries as to town

A CHILDREN'S GARDEN FÊTE

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AN INDEPENDENCE DAY PAGEANT

Given by the school children of Washington, D.C.

THE STAGES OF SOCIETY, SHOWN IN TABLEAU OUT-OF-DOORS

Four periods of economic life were shown in this pageant, first the hunting stage, then the pastoral, shown above by shepherds with their flocks, then harvesters with their spoils, and lastly machinery. This shows a type of pageant where ideas are worked out in action.

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AN OLD-FASHIONED DANCE ON THE VILLAGE GREEN REPRODUCED AS A FEATURE OF A MODERN PAGEANT

history and their new fellowship with their neighbors. People from the Old World, who have come among us recently, are more accustomed than we to such holiday-making. They will often be able to contribute beautiful folk dances or songs which are part of their national life.

So the word to those who are interested in pageants is to get one up. First a simple one, without much literary work, but with most of the scenes in pantomime, tableau, or procession. In the pageant given at the seventy-fifth anniversary of the founding of one of the New England colleges for women, of which seven scenes are pictured here, each department undertook to represent its own interests. The Mathematics department, with a banner showing Mathematics as "the key to all sciences," presented a group of mathematicians of thirty centuries, dressed in appropriate costumes. A company of Roman youths, clad in white togas, came and sang in Latin a chant of victory to their emperor Augustus. The English department had maidens representing Rhetoric and Poetics, with their various attendants, Verse, Prose, the Sonnet, and so forth. The Economics students showed the progress of society, giving a pastoral scene of shepherds with their flocks, a group of harvesters bringing home their treasures, and a machinery tableau. Chemistry had one of the most interesting and unique scenes. Girls dressed in all the colors of the rainbow came dancing in across the greensward, weaving in and out in a pretty confusion of colors, till a chemist, Mendel, an Austrian monk, came forward and raised his wand. Then the dance changed, and these maidens, who represented the elements out of which all matter is composed, fell at once into groups, red shading into pink, green into blue, in orderly succession. Mendel, who discovered the law of their relations, had given the sign, and the confusion had changed into harmony. As they stood obedient to him, Radium, a new element, represented by a dainty maiden in shimmery gown flashing with brilliants, came and danced before them, and before she departed she dropped her shining garments and stood forth, modest and Quakerlike in soft gray, to symbolize Helium, the newest element of all.

MUSIC HERALDS

Not a word was spoken throughout this whole two-hour performance, and yet from the programs in their hands the people were able to follow every step, as the story of knowledge was presented in picture before them. "What is heard is often forgotten, but what is seen is never forgotten," Oliver Wendell Holmes has said. The pageant has a great future not only for recreation but for education. It makes the past live, and lends to it a reality and inspiration not to be found in books, no matter how vivid the written descriptions may be.

THREE BRANCHES OF KNOWLEDGE IN TABLEAU: MATHEMATICS, LATIN, ENGLISH

A DANCE OF THE CHEMICAL ELEMENTS

WEST POINT AND ANNAPOLIS CADETS

LIFE IN THE GOVERNMENT WAR ACADEMIES

WEST POINT AND ANNAPOLIS

THE GOVERNMENT SCHOOLS FOR PREPARING OUR FUTURE GENERALS AND ADMIRALS

THE Military Academy at West Point and the Naval Academy at Annapolis are the greatest schools maintained by the United States Government. They are the preparatory schools for the men who wish to become officers in the service and graduation from either one of them gives a commission and puts the fortunate possessor in line for promotion to the higher grades.

What are the necessary elements for fitness to hold a commission in the army or the navy? Briefly, the same elements that are necessary for success in any profession or business, plus an amount of self-control that makes a man impervious to the exactions of strenuous duty. He obeys before he commands — and while he commands, he obeys.

WHERE DO THE BOYS COME FROM?

Where do these embryonic officers come from who wear the army gray at West Point and the navy blue at Annapolis? From every section of the United States and from its possessions come the applicants, who receive the designation through their representatives in

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IN REVIEW AT THE CAPITOL

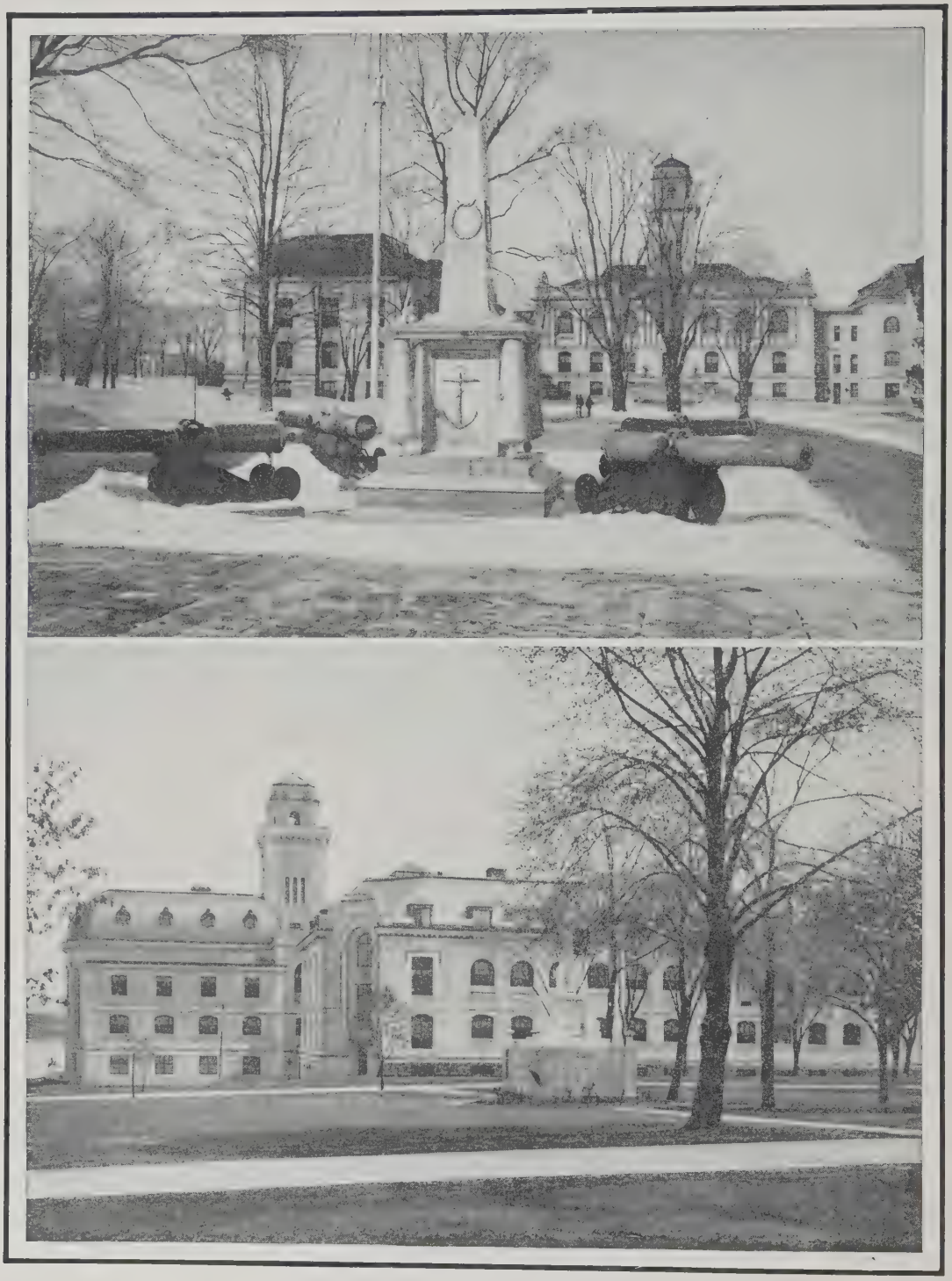
Congress or through a United States senator, and a few are appointed by the President direct. As Congress may at any time make such changes as it sees fit in the personnel or requirements, it is well to check up any statements about these academies by writing direct to Washington for the latest information. In general there should be at the military academy two from each congressional district, with a considerable number from the country at large, and from enlisted men in the service, while the naval academy has five for each member of Congress and several at large.

To insure fairness in securing appointment to these coveted places, it is sometimes the practice of congressmen to hold competitive examinations, thus putting the boys on an equal footing regardless of the political affiliations of their fathers or guardians.

It is entirely within the power of the representative or senator to appoint any boy he may select as an applicant for admission to either of the academies, but the boy's fitness will be shown when he comes up for examination by the authorities of the army or the navy. In case he fails, the opportunity of appointment falls to the first alternate, or, if he cannot pass the examination, a second alternate is designated.

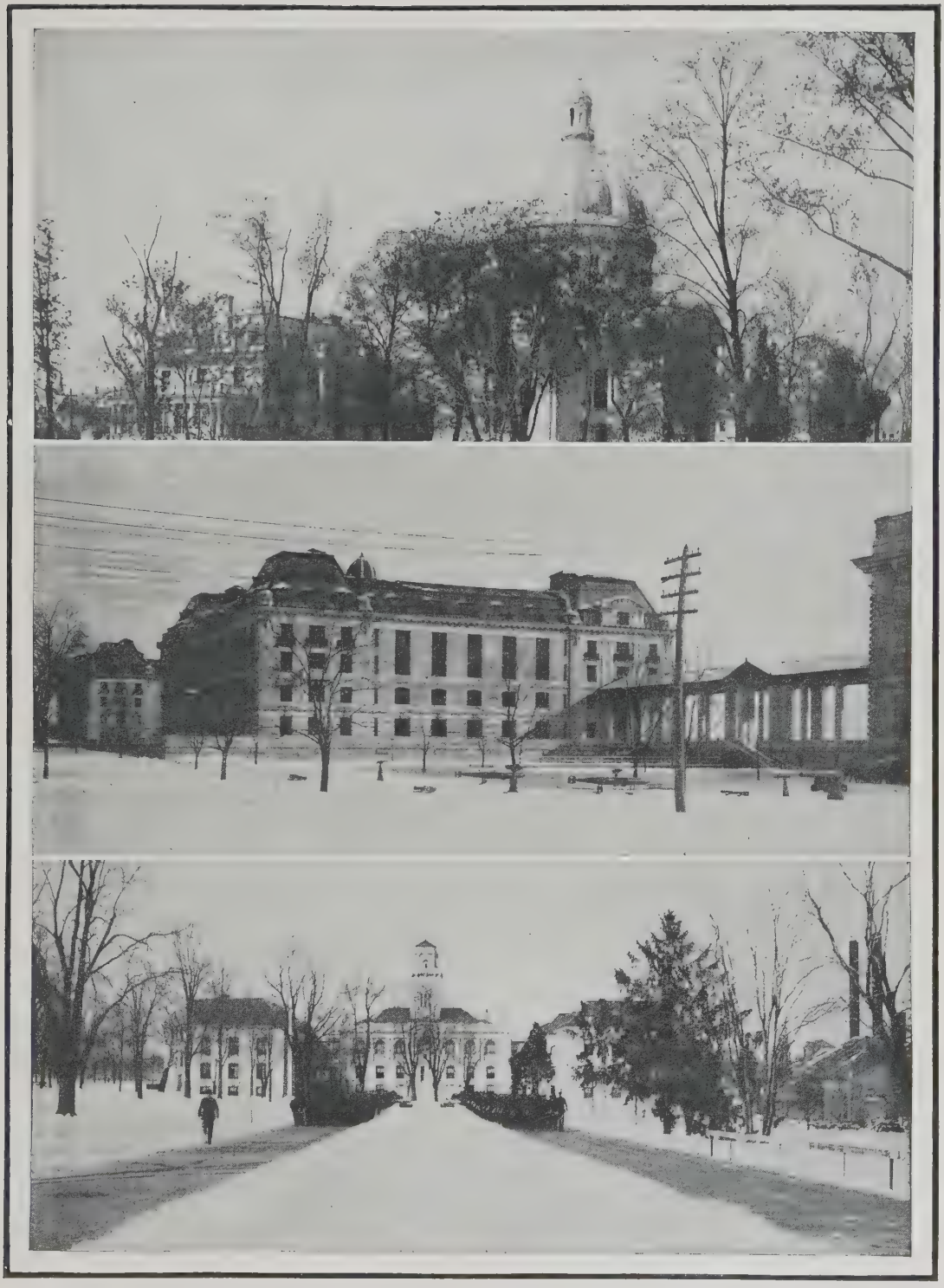
THE REQUIREMENTS

The army school requires applicants to be over seventeen years of age and under twenty-two; but the navy accepts boys between the ages of sixteen and twenty only. The examination is both academic and physical, and unless a boy is practically physically perfect he has no chance for admission to the service schools. The mental examination is in such subjects as are taught in the public schools, and any boy who goes through his home school



THE NAVAL ACADEMY AT ANNAPOLIS

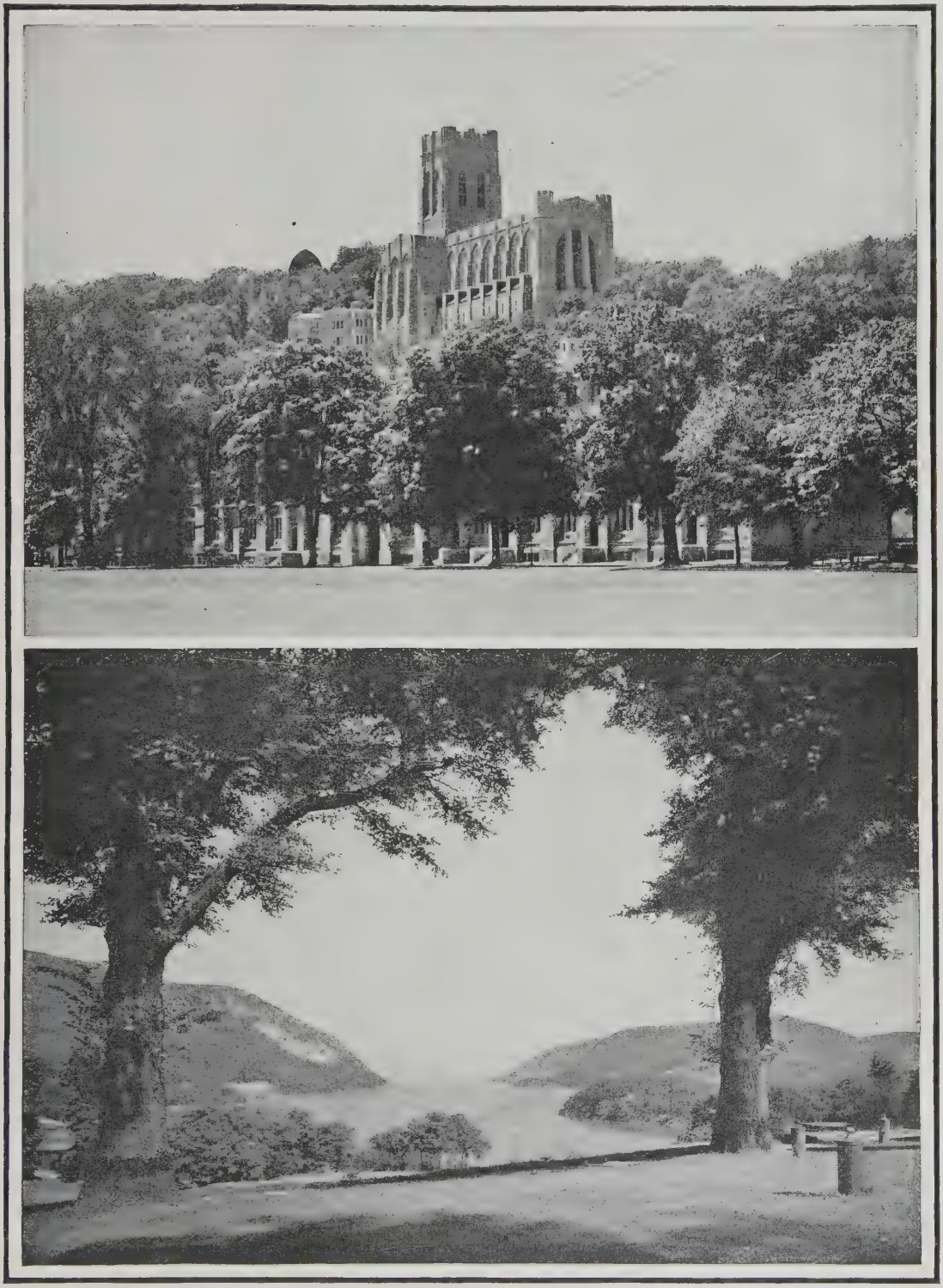
Top: Main Recitation Building, with Assembly Room and Naval Flags — Hynson Monument in the center foreground.
Bottom: Another view of the Recitation Buildings.



TOP: SUPERINTENDENT'S HOUSE AND CHAPEL, NAVAL ACADEMY. MIDDLE: BANCROFT HALL, THE MIDSHIPMEN'S DORMITORY. BOTTOM: MIDSHIPMEN RETURNING FROM RECITATIONS. THE LINE OF MARCH IS FORMED EVERY HOUR

VIEW OF WEST POINT, SHOWING OLD BARRACKS, ACADEMY BUILDING, ATHLETIC FIELD, AND PARADE GROUND

Top: A general view of West Point from the river, showing Power House, Riding Hall, Post Headquarters, and Chapel Towers, Fort Putnam above. Bottom: General view from the Chapel towards the river.



TOP: VIEW OF THE CHAPEL AT WEST POINT FROM THE PARADE GROUND. THE NEW BARRACKS IN THE FOREGROUND BEHIND THE TREES. BOTTOM: VIEW UP THE HUDSON FROM THE PARADE GROUND

with credit will have no difficulty in passing the required grade for entrance to these schools. Certificates from colleges are not accepted, and in this way all cadets and midshipmen enter on common ground.

THE REWARDS

The courses of instruction at both institutions cover a period of four years, and when they are completed the cadet or midshipman has an equivalent of any college course in the land, with a plus in his favor in practical experience and discipline.

The army gives a commission as second lieutenant as a reward for the four years of student life it demands, and the navy creates its lowest grade of commissioned officers — ensigns — when it bestows its graduation diploma on the eager youth who has earned it by hard work and the self-denial that form the essential element for his securing it.

THE HISTORY OF THE SCHOOLS

West Point has been occupied continuously as a military post since January, 1778. In June, 1777, Congress provided for a "Corps of Invalids to serve as a military school for young gentlemen previous to their being appointed to marching regiments."

This corps was organized in July of 1777, and in 1781, at the request of General Washington, it was marched from Philadelphia to form part of the garrison at West Point, where an engineering school, a laboratory, and a library had already been established in three separate buildings. From this has grown the magnificent school with its splendid equipment and its high standing as a college and military school combined.

The United States Naval Academy was founded in 1845, by the Honorable George Bancroft, then Secretary of the Navy during the administration of President James K. Polk. The ground was selected on the banks of the Severn at Annapolis and was presented by the war department upon its abandonment of the old fort bearing the name of the river — Fort Severn. Formerly the course was five years in length — only the first and last years being passed at the school and the interim being spent at sea. The midshipmen entering in 1840 were held over and the first class to receive diplomas was graduated in 1846. From 1861 to 1865, during the Civil War, the academy was conducted at Newport, R. I., but after its reëstablishment at Annapolis it was reorganized and has grown to be the greatest naval school in the world.

DRILLS AND EXERCISES GIVEN AT BOTH SCHOOLS

Whatever brings new and generally unused muscles into play is good when properly taken as exercise. The two great government schools recognize this and the students are required to do those things which develop them into strong, active, physically perfect specimens of manhood. The curriculum is so arranged that the students learn not only that which benefits them, but also how to guide others who are later to be under their command to care for health and to keep in fine physical condition.

The courses included are company and battalion drills, brigade in close and extended orders, setting up and bayonet exercises, and class drills in calisthenics as well as free movements with apparatus. In addition to these there are all forms of field and athletic exercises and games, in which the army and navy compete with each other, and also boxing, swimming, and dancing.

Another branch of the training comes in courses of lectures covering the essential points in caring for large companies of soldiers or sailors. Personal hygiene is emphasized, selection of recruits, preventable diseases, clothing and equipment, the water supply, foods and their preparation, the disposal of waste, and the sanitation of camps and quarters in hot and in cold climates are given great and careful attention, and text and reference books are used to better fit the young men who will later be charged with the responsible duties of caring for enlisted men and directing them into proper and healthy living.

It is the intention of these schools to give an all-round training, which will be of use not only in the acquiring of it but also in the taxing duties and emergencies which the graduates must be prepared to meet.

AT THE NAVAL ACADEMY

Top: Baseball Practice. In Port, the old *Santee* training ship on the right. Center: The Gymnasium and the Mess Hall of the Naval Academy. Bottom: The Cadets at the daily Setting Up Exercise.

Courtesy of U. S. N. A.

THE CHAPEL, UNITED STATES NAVAL ACADEMY

SUMMER DRILL ON THE PARADE GROUND

A MIDSHIPMAN'S DAY AT THE NAVAL ACADEMY

[This article is written for OUR WONDER WORLD by Professor Herman F. Krafft, Curator, United States Naval Academy. The article and several accompanying photographs are published by permission of Rear Admiral Henry B. Wilson, Superintendent of the Naval Academy].

FROM reveille to taps a midshipman's day centers largely around the great granite dormitory, Bancroft Hall, a building that covers four acres, has three miles of corridors, and houses some two thousand midshipmen. In this hall with military precision the midshipman's day begins and ends. From here he marches to his meals in the great mess hall, and to his recitations and drills at the other end of the campus. To this same Bancroft Hall, after the day's work is over, the midshipman returns for evening roll call, dinner, and study hours, until the gun fires at 9.30. Then he has a short respite before taps "busts" at 10, when all lights are out and silence reigns supreme in the long corridors.

From the moment he rises at 6.15 in the morning, the midshipman is under a strict routine, which is intended to shape his military character. Unlike our colleges, where young men are largely their own masters, at the academy every detail is the subject of regulations. The midshipman quickly learns the value of time. That same lad who worried his mother and father with his lateness at meals, his inability to cover ground in a limited time, his general slipshod ways of regulating his goings and comings, — this same lad at the academy immediately falls into step. He jumps into his shower and into his uniform with lightning swiftness. Dressing, such as it was at home that used to take an hour, now is accomplished with miraculous speed. He appears at breakfast formation in a few minutes with shining morning face, full of health and vim, his uniform and shoes neatly brushed and polished. Many a parent, on his first visit to his boy after the latter's entrance to the academy, has expressed amazement at the transformation. The writer of this article has heard many a parent express a different kind of amazement at the transformation of their boy after his first few months at some of our great colleges. You may say what you please about the too great strictness of the Naval Academy routine. The general physical condition of the midshipmen, shown not only in the achievements of their athletic teams, but in the health and vigor of the whole

Courtesy 1923 Lucky Bag, U. S. N. A.

THE REGIMENT OF MIDSHIPMEN MARCHING TO INFANTRY DRILL

regiment, proves convincingly that these military restrictions have their good points.

To bring out military character this routine must stress not only the value of time, but the necessity of cleanliness and order of person and environment. The five hundred shower baths — one a few steps from each room — are in tremendous demand. At the numerous inspections, every detail of dress, from collar to shoes, is rigorously scrutinized. Of course it is human nature to regard these details as trifling and useless; always some will try to evade, will put on only the white collar and the cuffs without the required shirt under the blouse, but this superficial fixing up for inspection is frowned upon. It is in keeping with the covering of a corroded gun turret with layers of paint. The careful inspecting officer of mechanism, human or otherwise, aims at real, not superficial, efficiency. And as in personal neatness, so in regard to rooms, the midshipman observes cleanliness and order. He does his own housework; makes his own bed, and in general in his simple but substantial quarters he has a place for his few necessities, his books, his uniforms, etc., and he keeps each in its proper place in neat array. If his shoes, for instance, are not arranged in a row, he will get demerits for his untidiness; in midshipman's slang, he "hits the pap," which, being interpreted, means he goes on the report for demerits. Demerits mean deprivation of privileges to athletic games, to visit town, and even in extreme cases, to remain in the academy.

Courtesy of the Log, U.S.N.A.

A MIDSHIPMAN'S ROOM
Showing shower bath, wash basin, table, etc.

The man who is hopelessly slovenly, who will not learn cleanliness and order and prompt obedience, is a misfit as a future military leader.

Of course, of late years there has been a more liberalizing and more humanizing tendency at the academy. Men cannot be mere machines all the time. To all this military precision there must be some occasional let-up. During the last few years the Academy authorities have

tried to lessen the severity of the older order of things. Midshipmen have always had their Saturday-night hops, their athletic games, etc. But latterly they have received more privileges: they have been treated more like young men on their own responsibility. They have been given more time in the afternoons, and on Saturdays and Sundays, for relaxation, and they now have Christmas and Easter leave, as well as the usual September leave.

In addition to the daily routine of the midshipmen in Bancroft Hall — a routine that is intended primarily to form military habits — the midshipman's daily life concerns itself with his recitations and his drills. From 8 to 12 in the morning and from 1 to 3 in the afternoon, he goes to his recitations and lectures in the academic and professional departments. Here he pursues not only technical subjects like seamanship, electricity, ordnance, and marine engineering, but he must also give considerable time to such liberalizing studies as modern languages, general science, English, and history. In the afternoons he generally has laboratory or practical work, called drills. These drills include anything from assembling marine engines, the making of forgings, or work on the lathes, to cutter drills and the handling of small boats in flotillas, and to target practice on the rifle range, or the manipulating of large guns in the Armory and gun shed. Occasionally also the whole regiment marches out to one of the big parade grounds, where to the strains of martial music the midshipmen go through infantry drills, which culminate, in the more elaborate graduation exercises in "June Week," in sham battles and presentation of banners to the crack company of the year.

In these drills, as indeed in the routine marching to and from recitations, all sorts of qualities of men, from personal courage to leadership, are given a chance to be developed. Practically every midshipman has on numerous occasions the opportunity to meet emergencies and to handle men. Drills, athletic contests, etc., often require judgment, skill, courage, and leadership. From section or squad leader to "five striper" (the midshipman commanding

Courtesy of the Log, U. S. N. A.

THE NAVY MASCOT

Copyright, Harris & Ewing

FAULTLESS MARCHING OF GOVERNMENT CADETS IN INAUGURATION DAY PARADE

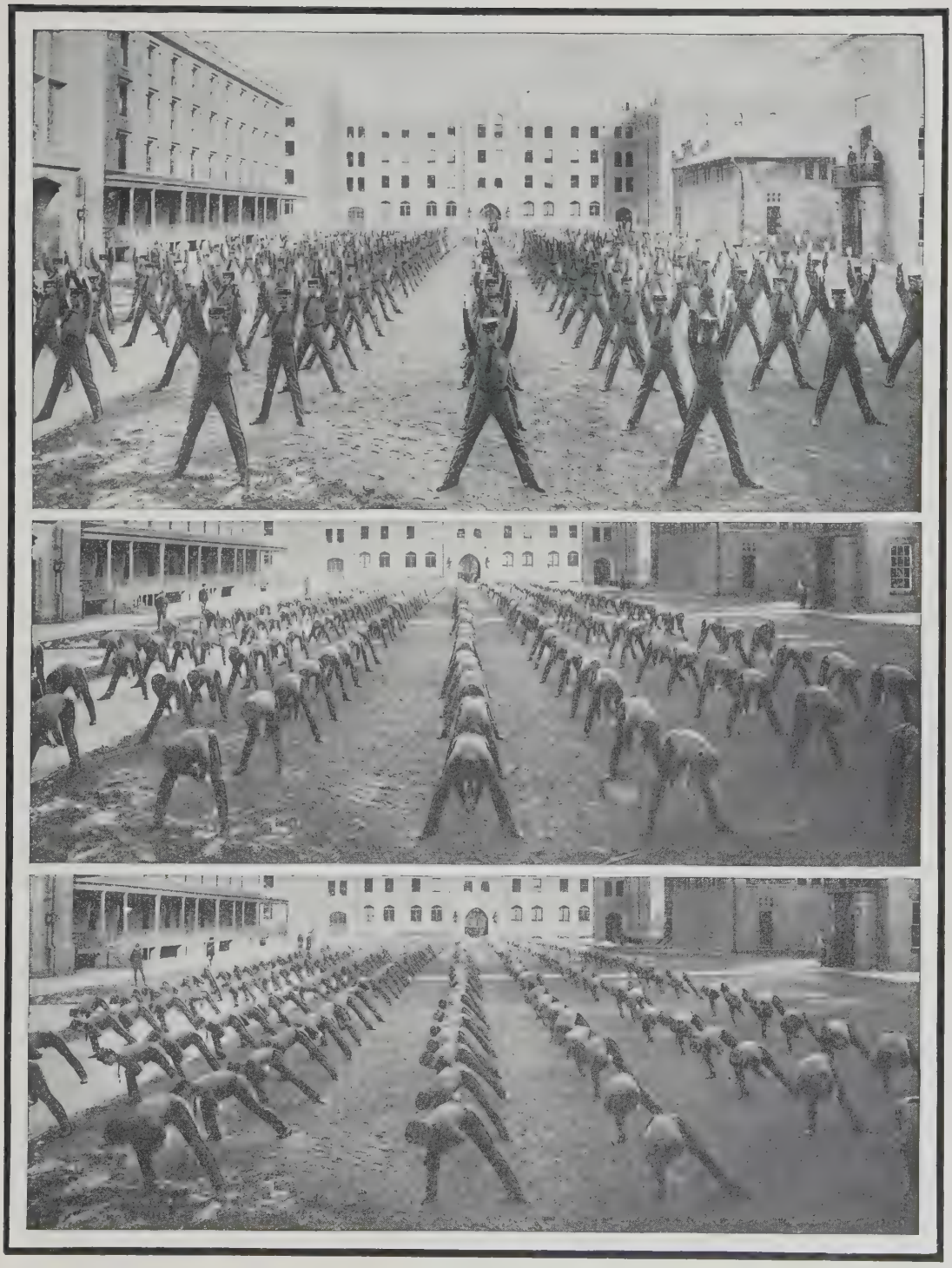
the whole regiment) the embryonic officer has the opportunity to handle groups of men. He is often on his own; he is forced to be self-reliant.

On the summer cruise the midshipman's day changes completely. He now to a large extent lays aside his books to take his station as watch officer on board ship, or to join the engine-room force, or to take part in target practice with the big guns of the fleet. He does his trick at the wheel, and in chart room he plots the course of the battleship as she makes her way across the ocean. On this summer cruise the midshipman visits great cities in Europe or on the West Coast; he gets his first big glimpse of the world, — an opportunity that is rarely granted to the average college man. And for his work while training for his profession Uncle Sam gives the future naval officer, in addition to his tuition, $780 a year to cover his food, uniforms, and sundries, and takes him immediately on graduation into the service at a salary which the young professional man in civil life has to wait years to attain. Thus the parent, even of humblest means, can with little expense to himself see his boy started on a career.

Taken all in all, winter term and summer cruise, at the Naval Academy and in foreign lands, the midshipman's day is a very interesting and wholesome mixture of work and play.

OUTDOOR LIFE AT WEST POINT

Top and middle: Cavalry Drill. Bottom: Artillery Practice.



SETTING-UP DRILL AT THE ACADEMY

SECOND CLASSMAN

Natural and Experimental Philosophy,	8.00– 9.15
Study,	9.15–10.45
Chemistry and Electricity,	10.45–12.00
Dinner,	12.00– 1.00
Spanish *or* Drawing,	1.00– 2.15
Drill (including Riding) *or* Physical Training,	2.30– 3.30
Study,	3.30– 4.30

FIRST CLASSMAN

Civil and Military Engineering,	8.00– 9.25
Study,	9.25–10.35
Ordnance and Gunnery, *or*	10.35–12.00
Riding,	10.35–11.35
Dinner,	12.00– 1.00
Economics and Government *or* Law,	1.00– 2.15
Drills *or* Physical Training,	2.30– 3.30
Study,	3.30– 4.30

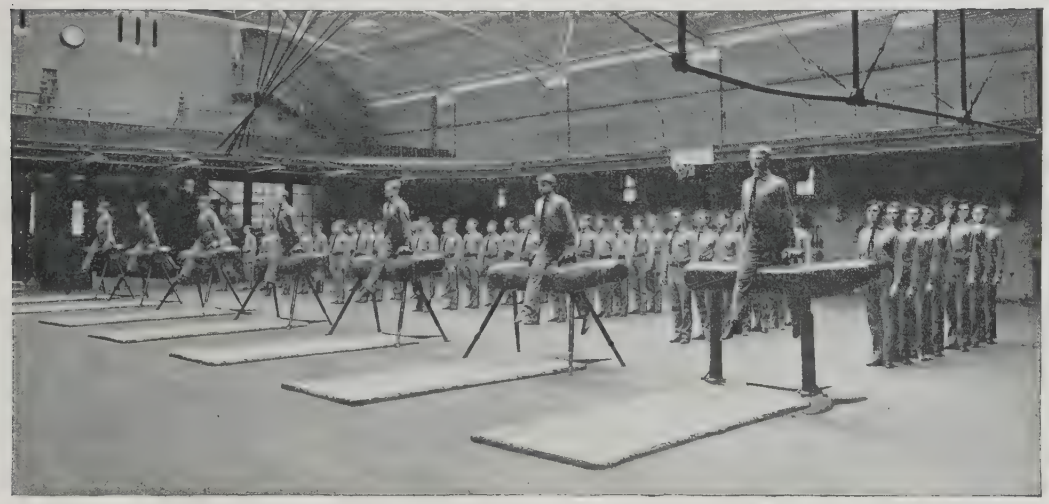
The academic and drill schedule closes, as indicated, at 4.30 P. M., and the cadets have something over an hour for rest and relaxation. Then at 5.45 P. M., in the fall and spring, the corps is assembled for daily parade, the dress event of each day. The guard-mounting ceremony follows the daily parade.

At 6.30 P. M. the corps is marched to supper, at 7 P. M. is marched back from supper, and then after a fifteen-minute intermission all cadets are summoned to their rooms by the bugle "call to quarters," from 7.15 P. M. until taps at 10 P. M. The evening is devoted to study in preparation for the lessons of the following day.

Thus goes the normal routine of a cadet's day during the academic year, interrupted by a half holiday on Saturdays, and a whole holiday on Sundays, ten days' holiday at Christmas, and a few scattered holidays, like Thanksgiving and Washington's Birthday, through the year.

With the coming of the summer season, this schedule changes sharply. The class which has just finished its yearling year and become the second class is given a furlough from the middle of June until the end of August; a new class of Plebes is admitted July 1st, and these Plebes,

A CADET ROOM



IN THE GYMNASIUM

the Yearlings, and the First Classmen move out of barracks into a summer camp established on another part of the reservation. In camp, these classes, under direction of the Department of Tactics, are given drills and tactical instruction daily, progressing from the simple manual taught to the new cadet to the advanced exercises taught to the first class.

Throughout the whole of the routine outlined, each cadet is under the watchful eye of officers and cadet officers, is reported for any delinquencies, and is by all means possible made aware of the necessity of maintaining constantly the highest level of punctuality, neatness, attention to duty, and soldierly bearing and deportment. The citation of a few sample reports of delinquencies will show how careful is the inspection: "Floor not properly swept at A. M. inspection"; "Bedding not properly folded at police inspection"; "Gloves in clothes-press not neatly arranged at morning inspection"; "Cap visor dusty at guard-mounting"; "Inattention in Mathematics Section Room"; "Hair too long at weekly inspection"; "Wheeling improperly by fours at drill." The purpose of this system of reports is not so much punishment for violation of rules and regulations, as the inculcation of soldierly habits of thoroughness, accuracy, and attention to details.

For the academic work, the staff includes eleven professors, and instructors varying in number between eighty and one hundred according to the size of the corps of cadets. Both professors and instructors are army officers, seven of the professors being permanently stationed at West Point, and all other officers being detailed from the army for tours usually of four years at the Academy. The cadets are grouped for purposes of instruction in small sections, not over eighteen cadets in a section, and are arranged in order of academic standing from top section to bottom section in each subject. The system of instruction varies, of course, with the subjects, but in all subjects regular daily lessons are assigned and methods used to test the thoroughness of each cadet's study and understanding of these lessons. The curriculum includes the same subjects for all cadets, but those cadets who show special proficiency are placed in top sections and are commonly carried further in the subject than those in the lower sections.

Athletics form an important part of the curriculum, having been introduced in an effort to train each cadet so that as a commissioned officer he will be able intelligently to direct the athletic activities in his organization. Under the Academy system, each cadet is given instruction in the principles of several sports, as football, baseball, basketball, soccer, lacrosse, fencing, boxing, and track. In addition, the whole body of cadets is represented by corps teams in the major sports, and each Saturday commonly sees some intercollegiate contest

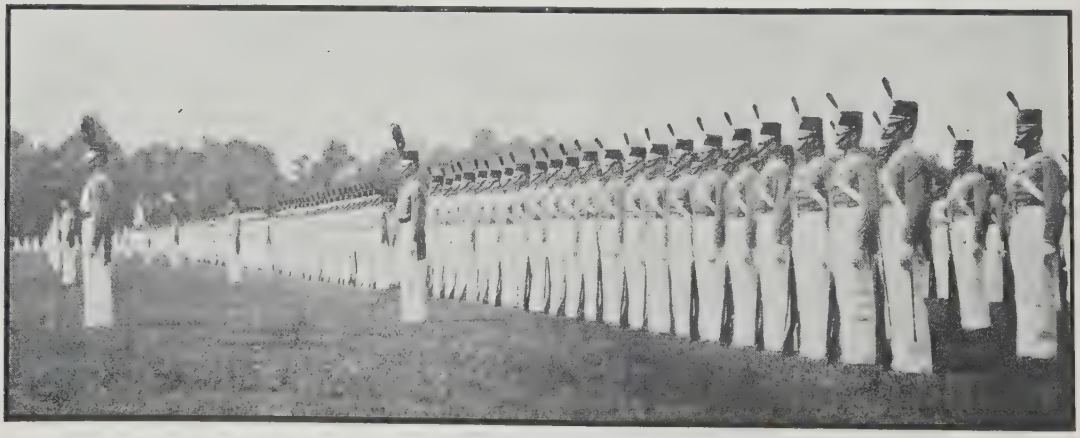
CADET POLO SQUAD PASSING IN REVIEW

staged at the Academy. The climax of the corps team contests is reached in each of several sports in the annual clash with the teams of the United States Naval Academy. The Army-Navy football game is a national classic in football, and the basketball, baseball, and track meets raise the corps to a high pitch of enthusiasm and excitement.

The graduated cadet is recommended by the Academic Board of the Academy for a commission in the Army of the United States. The War Department assigns him to his branch or corps, whether Engineers, Field or Coast Artillery, Infantry, or Cavalry, etc., taking into account his expressed preference and his special aptitude as shown by his record at the Academy.

During his after-career in the army, the officer looks back many times with fond recollections to his days at West Point. In the years he was at the Academy, the discipline seemed severe, the curriculum very difficult, and the conditions of life hard. But in perspective he gains an appreciation of what his training has meant for him. His life at West Point has been a happy one, — happy with the consciousness of work well done and of developing ability and manhood. He has acquired habits of industry, attention to detail, accuracy, and thoroughness, and above all, a character noteworthy for courage, honesty, and loyalty.

The country may well feel proud of its great military school. No country in the world educates its officers more thoroughly in all that goes to make for manhood, efficiency, and a sound culture.



FULL DRESS PARADE

SIR THOMAS LIPTON'S SHAMROCK, SEEN FROM HER BOWSPRIT

This photograph was taken from the bowsprit, a point most perilous to the photographer but giving an effect as if the yacht was sailing into the lens.

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TWO OF THE FINEST NEW YACHTS

SPECTACULAR SPORTS

YACHTING, MOTOR-BOAT AND CYCLE RACING, AND STRANGE SPORTS

YACHTING, as we know it to-day, begins with the famous victory of the schooner yacht *America* over a fleet of seventeen of the best yachts of the British Royal Yacht Squadron. This took place on the 22d of August, 1851, and the course lay around the Isle of Wight. The race was for a cup offered by the Royal Yacht Squadron. It was brought to this country and given to the New York Yacht Club to hold as an international challenge cup, now called, after the schooner which first won it, the America's Cup.

The *America* was a schooner of 170 tons, designed by George Steers of New York for Commodore Stevens of the New York Yacht Club. She was designed after the model of the New York Harbor pilot boats, vessels as seaworthy as they were fast. She was ninety-five feet over all, eighty feet on the keel, twenty-two feet six inches beam, and drew eleven feet of water. In model, she differed radically from the British boats against which she competed. These were modeled after the revenue cutters of the British naval service, which were built exceptionally fast to outsail smugglers. The British type of that day had thick, bluff bows and a long, taper-

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SLOOP SAILING IN BOSTON HARBOR

ing body. They were nicknamed the "cod head and mackerel tail" type. The *America* was built with a fine, slender bow and a shorter taper at the stern. Her superiority, however, was quite as much due to her perfect finish and rig as to her model. In fact, she was in every respect superior to the British boats. She is still in existence, the property of the Ames family of Boston, and her lines impress the eye by their ease and grace.

Many of the most famous yachts in the world have been built expressly to defend or challenge the America's Cup. The cup is still the property of the New York Yacht Club, having been successfully defended by such great designers as Burgess and Herreshoff, the blind designer and builder of Bristol, R. I., and by such great skippers as Hank Haff and Charley Barr. These men, as well as the crews of the racers, were drawn from the hardy fishermen of the New England coast. For a long time the men were all brought from Deer Island, Maine.

To-day practically every town located on water of sufficient size has its yacht club, modeled after the famous New York Yacht Club and managed in a similar way. Such clubs usually have a mooring ground and clubhouse, offer a number of cups for racing each year, and conduct an annual cruise.

CLASSES OF RACING YACHTS

For racing, yachts are divided into classes according to size and rig. The rules governing these various classifications are technical and complicated. The rules adopted have a great influence in determining design. For a long time the rules of American yacht clubs favored a broad, shallow boat, with a centerboard, while

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DARING YACHTSMEN WHO HAVE WON MANY RACES

When two yachts are racing side by side, the one to leeward has a right to hail the other "I wish to go about; you must give me room," and force the other to turn.

those of the British clubs favored narrow, deep boats. These were called cutters, while the American boats were called sloops. There were also minor differences of rig between the cutter and sloop types. The competition between the two was sharp and prolonged, and gave rise to some of the most brilliant and closely contested of the America's Cup races, as well as minor races. The tendency of each type seemed to be toward its own extreme, until at last both types degenerated into uselessness as yachts. The early boats of both types were wholesome vessels, seaworthy and strong. The *Mayflower*, designed by Burgess to defend the America's Cup, is a boat of this type. She is still afloat and used for cruising, and is a handsome and roomy yacht. The later boats came to be mere racing machines, which a single race was sufficient to strain beyond repair. The American type was called the "skimming dish," and the British type the "plank on edge." It is difficult to say which was the least wholesome. In neither could the owner take any comfort, to say nothing of pleasure.

At last a reaction set in. Building racing machines to be broken up immediately after the races were over was expensive folly. No pleasure beyond the racing could be indulged in with these expensive toys. The first movement in the direction of a more wholesome type was in what were known as "compromise models," that is, models that attempted to carry something of the depth of the cutter and the beam of the sloop. The result was an expensive, heavy boat, requiring much ballast to keep her big body in the water and a tremendous sail area to drive at any speed. Although these boats were in many ways failures, the reaction could not be stopped. At last the idea developed of giving but little depth to the boat body, transferring it to the fin-shaped keel, on the lower edge of which was hung a great bulb of lead as ballast. This was an improvement in speed but not in comfort. These boats had scant accommodations, and there was always a danger of the heavy bulb dropping off the keel. Then came the raising of the freeboard (the portion of the yacht out of the water),

and the building of long, overhanging bows and sterns, with shallow under-water bodies and deep, ballasted keels. This is the accepted racing model of to-day. It is a better boat than the old racers, but still leaves much to be desired as a seaworthy and comfortable boat of reasonable endurance.

The tendency toward more and more wholesome types is still being fostered by the rules of yacht clubs, and we may expect to see a return to racing with vessels of a seagoing and cruising ability the models of which will show the result of the knowledge gained in all of these years of experimentation and change. They will be as strong and stanch as the graceful *America*, and as fleet as the lightest "skimming dish."

THE "ONE DESIGN" PLAN

Still another interesting development has kept pace with this change of type. The extreme racing type of yacht required a professional captain and crew. Usually the owner was not even on board his yacht in an important race. He watched it from the outside. Yachting thus began to deteriorate into a professional sport, backed by men of wealth. But the love of sailing as a recreation and sport requiring skill, hardiness, and courage was too strong to be tossed aside in this way. There began to be a clamor for racing by owners only. This led to the establishment of the Corinthian Yacht Club for this purpose. Then came the invention of what was known as "one design" racing. In this sport all of the boats follow one model. They are as nearly alike as possible. The race becomes a test, not of the vessels, but of the skill of the yachtsmen. This was an improvement in real sportsmanship and many clubs took up the new sport. It is still followed by a large number of yachtsmen.

But even this omitted one element of pleasure — that which the yachtsman feels in his boat. At last has come the reasonable regulation of the sport in which the competition is limited to a boat of a certain measurement, designed as the owner may fancy, and sailed by him with a strictly limited crew. This type of racing has reënlisted the interest of thousands who had ceased to enjoy the sport under the older regulations. The present favorites are small boats that can be sailed by the owner with two assistants.

The races held under the direction of the New York Yacht Club in Long Island Sound each summer attract many contestants and offer the keenest sport to both participants and onlookers. Marblehead, Massachusetts, and Newport, Rhode Island, are always the scene of much amateur racing, as are many other pleasure resorts on both the Atlantic and Pacific coasts.

A new interest has come into the international field in recent years through the contest for the "Fisherman's Trophy." Here fishermen of the United States and Canada compete in vessels which, under the rules of the contest, must have seen at least one season's actual service as fishing boat on the Banks.

It is a curious fact that, although the steam yacht is very common and pleasure boats using steam are at least as numerous as sailing yachts, racing with steam yachts has never gained headway. But the invention of the gasoline engine has produced a type of power boat that can be managed by one or two men, and in racing which the keenest competition

This is how the deck of a cup racer looks to the sailor on the crosstrees.

exists. The pleasure is entirely different from that of sailing. It is a pleasure derived from the handling of a machine rather than from the sea and its control. These boats, in racing, steer a straight course, through or over all waves, and ignore the wind. They develop

WHEN TWO YACHTS MEET

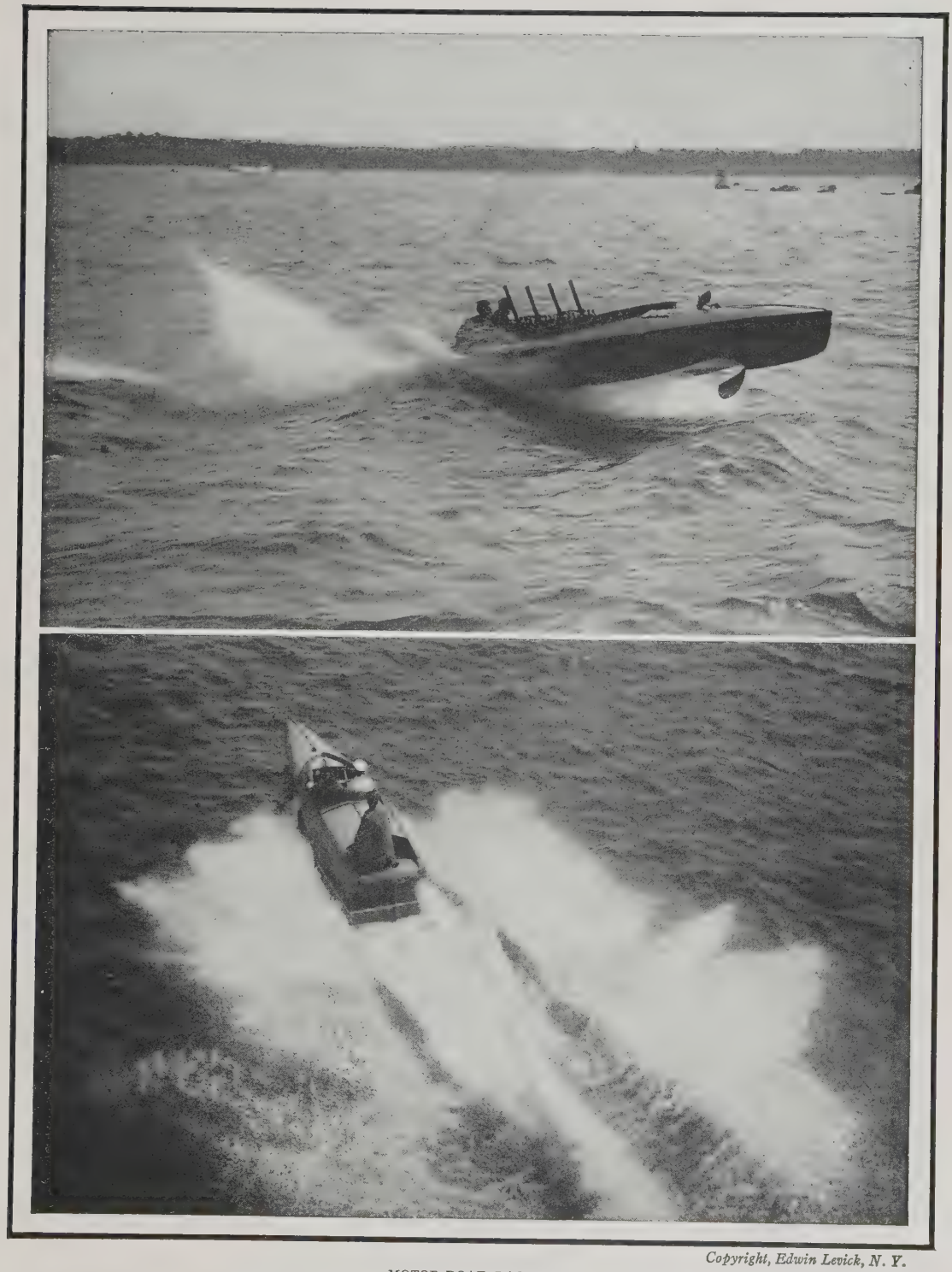
enormous speed, and the excitement of a race is very keen. The best engine and the best engineer are quite sure to win. The boats in which this racing is done are in the racing-machine stage of development. The sport has not yet passed through the long process of seasoning which has given us the sailing yacht of to-day. Such a development, however, is likely to follow, for the enjoyment of mechanical devices is inherent in modern life and appeals strongly to many. There is a pleasure to be found in a perfectly working engine and the speed which it attains under skillful control that is entirely legitimate and sportsmanlike.

YACHTING AS A PASTIME

Thus far we have spoken only of racing. It is racing that keeps up the interest in the sport and determines the types of vessels that are constructed. The pleasure, however, is largely derived from less strenuous sailing and cruising. In this more moderate way yachting is followed by thousands and is a feature of every shore resort, where there is a harbor to accommodate the boats. There is no sport more wholesome and delightful. Let the amateur yachtsman learn to handle his own craft, and the feeling of strength and independence is sure to increase his joy of living. Practical instructions about sailing are given elsewhere in this volume. Those who wish to begin should understand that sailing is best learned in a small boat, and that extreme care and the presence of an experienced person are necessary at the beginning. The learner should be satisfied to learn, and not pass the bounds of caution and good sense while inexperienced. There are remarkably few disasters in yachting annals. Such as occur are mostly due to ignorance and folly. The main points are: Use common sense. Keep to inclosed waters with open boats. Never tie the main sheet of a small boat. Shallow boats seem to be very stiff, on account of their beam, but must not be heeled too far, for they go over very suddenly. Do not go out without adequate means for bailing, and do not allow the boat to fill with water without bailing promptly. A boat in this condition will founder suddenly and in a very dangerous manner. Always be provided with oars, and with some reliable form of life-preserver. Learn to swim.

These precautions should be followed even though the yachtsman is the fortunate owner of the most advanced type of modern yacht, which is built practically non-capsizable and non-sinkable. Such phrases, it should be remembered, are always relative terms.

Motor-boat racing owes its recent and extensive development largely to the improved efficiency and simplification of the modern gasoline engine, which is responsible also for great advances in the manufacture of the automobile and the airship. It is interesting to trace the effect of an invention through its course in the business and sporting worlds.



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MOTOR-BOAT RACING

These boats are credited with a tremendous speed.

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SCENE AT THE FINISH OF A MOTOR-CYCLE RACE

BICYCLE POLO AS PLAYED BY A GROUP OF GOLF CADDIES

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THE START OF A SIX-DAY BICYCLE RACE

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The insatiable desire for novelty has led to the devising of these two forms of catamaran, one paddled in the old-fashioned way, the other propelled by foot-power air-propellers of the aëroplane type.

A ROMAN CHARIOT RACE, LIKE THE ONE DESCRIBED IN "BEN HUR"

STRANGE SPORTS OF MANY LANDS

WE are all of us likely to fall into the habit of thinking that our customs are the customs of the rest of the world, and that our ancestors, no matter how remote, worked and played about as we do. As a matter of fact, steel and electricity have introduced a thousand new trades and employments; and as for sports and games, scores of different forms have come and gone as the centuries have rolled along.

GLADIATORIAL COMBATS

Who would believe, for example, that men used to kill each other as a kind of game or sport? Yet this was exactly what happened when Rome was a great empire. Magnificent amphitheaters and colosseums were built, larger and more elaborate than any other grandstands the world has ever seen; and thousands and thousands of people used to gather to see the Roman games. Imagine yourself one of a host of fifty thousand spectators, gazing down upon the level floor of the arena. There in the great oval space penned in by high walls are two groups of men, two veritable little armies. They are soldiers in reality, and they bear the shields and helmets, the breastplates and the greaves, the spears and short swords of the soldiers of that ancient time when guns were unheard of and battles were fought heroically hand-to-hand.

Grouped at the other end are two hundred and more fighters. They are captives taken in a recent war. At this end there are a hundred only, but they are a hundred of the emperor's chosen gladiators, highly trained in all the arts of combat. What are these little armies there in the arena for? Why, to fight, in real and actual battle. The crowd is humming with discussion of the event and its probable outcome, and hundreds of wagers are laid for or against the gladiators. These gladiators were themselves once mere captives turned loose in the arena to fight as best they could, and win or lose where life itself was the prize. Only the strongest and most skillful could survive; and so no wonder the crowd is divided in opinion, some backing the newcomers because of their numbers, others backing the veterans, some of them well-known victors in many a fight, as much talked about as our prize-fighters.

We must not go further in our description of the combat. The details are too bloody and

cruel. It is enough to realize that out of all whom we see down there at the beginning, awaiting the signal from the trumpets, scarce a quarter will survive, the rest dying in agony before the eyes of the cruel Roman thousands Yet such sights were not uncommon in Rome; and as years went on the games became even more brutal. Men were made to fight the fiercest wild animals; animals were turned loose upon each other in droves; hundreds of helpless Christian converts were left to the mercy of lions and tigers brought from Africa and other lands. Every ingenuity was used to keep the multitude fed with excitement. When we think of these things we may rightly feel glad that we live in a time when sympathy and fellow-feeling are too strong to tolerate such hideous "sports."

Not all the Roman games were of this cruel sort. They had track athletics and wrestling and boxing; and they amused themselves with horse-racing too. Only their horses raced in harness, and hitched to war-chariots. As in all racing on circular or oval tracks, great effort was made to "gain the pole," or inside track, which gave the racer a decided advantage over his competitors; and the charioteers, in trying to get the pole, exhibited a rash daring that sometimes brought horses, chariots, and drivers crashing to the ground. Contrast the picture of the chariot race with that of a modern horse race.

KNIGHTS AND TOURNEYS

The ancient idea of fighting "for the fun of it," or for the glory and applause it might bring, prevailed in the Middle Ages also. As everyone who has read "Ivanhoe" knows (and who is there that has n't read "Ivanhoe"?) the knights, or mounted warriors of the time, used to joust. The jousting took place usually before large audiences, such as now get a milder but more desirable excitement from football games and polo matches. In the simplest jousts, two knights, in armor from head to foot, rode full tilt, straight at each other, each aiming at the other a long, heavy spear. The object was so to aim the jousting pole that it would catch in some part of the adversary's armor and carry him bodily backward off his horse. Sometimes the poles failed to catch, or were warded off by the shields; sometimes they caught and broke with the force of the blow; sometimes they struck so squarely on a breastplate or in the joint of the helmet that they pierced the armor and proved fatal. Imagine the thrill of watching twenty knights charge upon twenty others down the lists, or jousting grounds — imagine the waving of bright banners, the blare of the signal trumpets, the drumming of the galloping hoofs, the eager shouts, the clang and clatter of the amazing collision, the confusion spread instantly over the field as men and horses tumbled in the dust!

BULL-FIGHTING

Even in our own time there is a form of so-called sport that reminds us of the fighting sports of years long past. Spain and Mexico and other countries where Spanish blood predominates have still the bull-fight. Spanish cities have arenas built for the purpose, that draw great crowds on days when it is known that especially fierce bulls have been secured, or an especially popular matador is to play the chief part.

At its best the bull-fight affords thrilling exhibitions of human courage and coolness. The spectators sit at eager attention, row beyond row, above the fenced-in pit. A door in the fence opens and out stalks the bull. If he is in angry mood he will dart straight at the nearest of the several picadors, or mounted pike-men, who stab and goad him into further fury, he in the meanwhile frequently doing a horse to death with his terrible horns. The bull's first fury wears away, and while he rests the maimed horses are dragged out of the arena and the banderilleros enter to carry through their dangerous work of inviting the charges of the bull with red scarfs, then dodging and planting keen barbs in his neck. They vault over him and between his horns. They confuse and enrage him. When his second rage is at its height, on steps the matador, the hero, whose perilous duty it is to slay the bull with a single thrust of his sword. The bull slain, the arena is cleared, and another bull is brought on, and another, usually to the number of five or six, each to be cruelly tormented and at

last given the death-thrust. In the 225 arenas of Spain, some 1300 bulls are killed in a year, and in the killing some 6000 horses pay forfeit with their lives. Bull-fighting, however, is losing some of its popularity in its old strongholds. We are even told that in Spain baseball is growing in popular favor, and seems likely to draw public attention to itself and deal a fatal blow to a most cruel amusement.

Our list of strange sports could be lengthened by adding to it many hard and cruel pastimes that Englishmen and Americans have been guilty of. Dog-fights between trained bull-terriers; cock-fights; bear-baiting, in which a bear is set upon by dogs; bare-fist prize-fighting; even the wild Southern institution known as the "Battle Royal," in which a dozen or so negroes were set to fist-fighting in a ring, each against every other, until all were laid low but one, who as victor gained a money prize — all of these have flourished in English-speaking lands within the last two hundred years. The less said about these, however, the better. They have been stamped out by law, and they remain only among the worst inhabitants of generally lawless regions.

SCHLÄGER BOUTS

A remnant of the old warlike spirit is found in the dueling clubs among German students. Each member of these clubs takes his turn at dueling with some other member. The fight is with swords of the cavalry saber type ground to the keenest cutting edge; but many precautions are taken so to limit the exposure of the body that cuts about the forehead, cheeks, and chin are the only ones to be guarded against.

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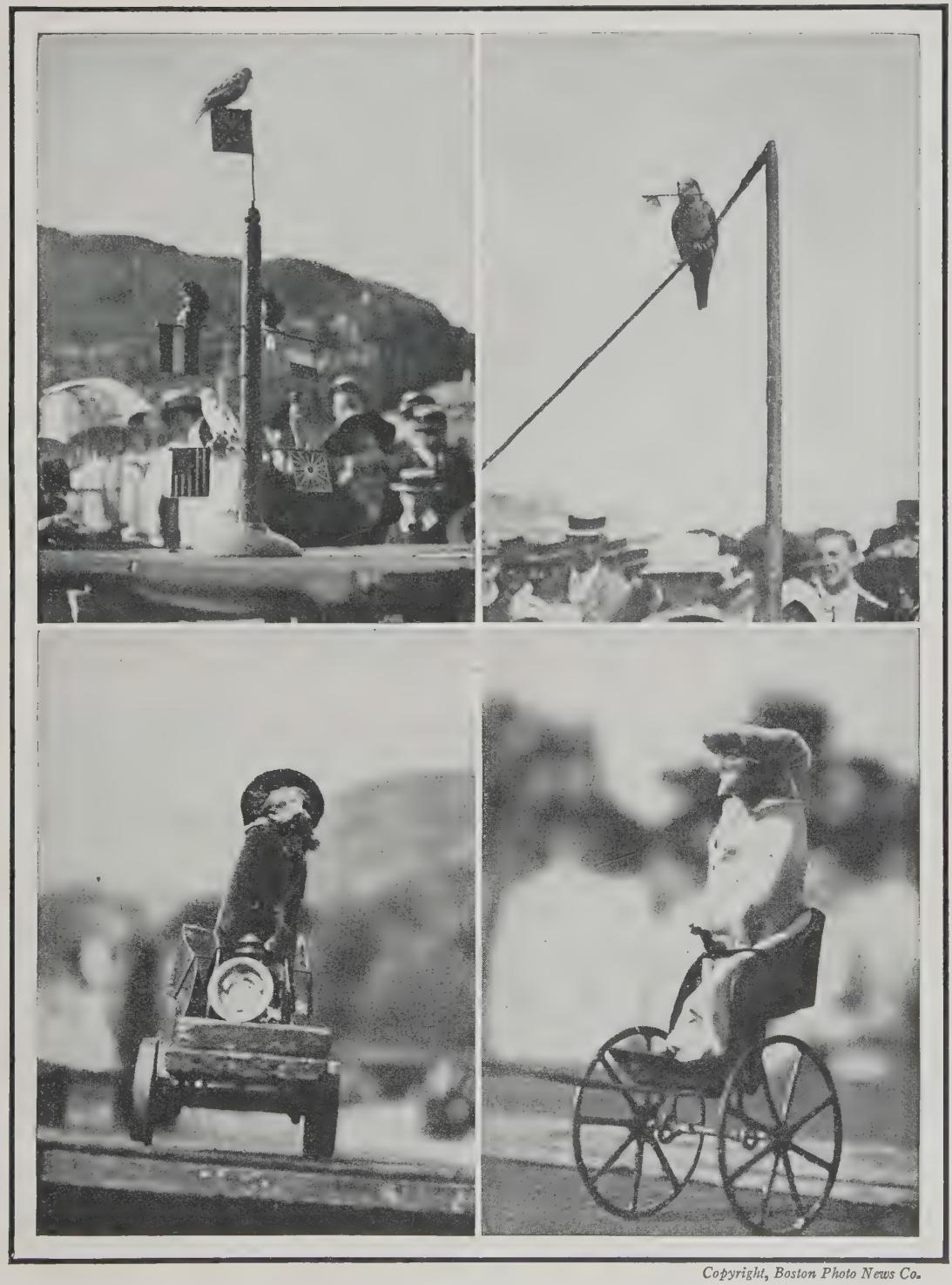
THE MATADOR AWAITS HIS TURN

In this case the witnesses are three thousand American Jack tars from the fleet when it toured the world.



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TRAINED BIRDS

Heavy helmets are worn, and eye-guards, and thickly quilted garments cover all parts of the upper body. Thus equipped, the duelists set about their fencing in the midst of a dead-in-earnest roomful of fellow-students. It is not that these men are hostile to each other; it is simply that they are obeying an ancient tradition that bids them prove that they have the courage to face the risks of real combat. As a result, many a handsome German face is scarred on brow or cheek, and many a veteran tells his grandsons the story of his honorable wounds.

THE SPORTS OF SAVAGES

Strange to say, most savages, whether in Africa or Asia or America, are too serious to care much for games as we know them. The South Sea Islanders have their wonderful surfboards with which they mount the crest of a long breaker and come shooting in toward shore; the American Indians have their saddle-bags and lacrosse; and almost all savages compete in trials of strength of various kinds. But it may be fairly said that most savages are either actually fighting, or else idling around in a very unenergetic way; so that they know nothing of sports like ours, which are the products of civilized leisure.

It is extremely interesting, though, to note how readily the worst savages will take to certain of our games if they are taught in the right way. This was shown recently in the Philippine Islands. A certain hill tribe of Igorotes was giving much trouble to the authorities. These half-savage men were robbing and killing their neighbors. They were restless. They had n't enough to do. And they hated the American soldiers.

An officer in our army in the Philippines believed that he could improve the attitude and habits of the Igorotes; and he had a novel and remarkable scheme for doing so. His plan was to go among the trouble-makers in a friendly way, and set them to playing American games and competing in American sports.

His scheme worked wonderfully well. Before

SWORD CONTEST IN A STUDENT FIGHTING CLUB IN GERMANY

The seconds and doctors are in attendance. The seconds are quick to interfere if anything is done out of order. A member badly slashed is seen standing on the right. This strange custom still continues in the German universities.

GIGANTIC JACK RABBIT DRIVE IN CALIFORNIA

long he convinced the hill men that he was friendly; and he soon worked up enthusiasm for the sports he could teach them. The climax was a regular track meet, to which the savages came from miles around. There was climbing the greased pole; there were tugs of war, and running-races, and wrestling, and spear-throwing, and many other events. And the result was the introduction of a new idea into the lives of these men, a new idea of what to do with spare time and spare energy in place of mischief-making.

QUEER FORMS OF RACING

The racing spirit has given rise to many strange forms of sport. We no longer think it strange that horses should be trained to race; but how about camels and cheetahs, ostriches and pigeons, frogs and, strangest of all, fleas? All of these animals have been used for racing, and many more besides.

Camels, grumpy and sour-tempered as they are, enter into the spirit of a race when they have been taught to; and with their awkward, shambling run they cover ground with surprising speed. For speed, however, they should not be mentioned at the same time with the cheetah, the wonderful big cat-animal of northern Africa. Cheetahs are the swiftest of all four-footed beasts, and the royal hunters of Egypt used to train them to run down antelope and other swift prey.

Ostrich racing is a sport that has been followed by a few enthusiasts on the Pacific Coast, among the great ostrich farms maintained chiefly for feather production. Ostriches are hitched to sulkies much as horses are, and after long and patient training they learn to circle the race track at a thrilling speed that even the cheetah could not equal. Their wings are brought into action to lift their weight partially from the ground, and their long, sturdy legs beat the earth in tremendous strides. To ride behind them is to enjoy almost the sense of flying.

Few of us have actually seen trained fleas; yet we know that for years they have formed one of the side shows at big circuses; and now the moving picture has turned its magnifying

lens upon them, as well as upon flies and other tiny insects. Men have been found of such truly remarkable patience that they will not only teach these mere animal specks to race in a straight line without giving way to their hopping instinct, but will in addition construct infinitely delicate sulkies to which the fleas may be hitched and in which they may draw driver-fleas.

ODD WAYS OF HUNTING

The rulers, or rajahs, of East India are noted for the splendor of their palaces, their feasts and ceremonies, and their hunts. At a certain season of each year a rajah will set off upon a tiger-hunt, and his trained elephants will be turned to account. In many parts of India the elephant is as much man's beast of burden or of pleasure as the horse is among ourselves; and one of his duties is to beat the jungle for tigers and carry the royal hunter safely housed in the howdah on his back. The elephants, coöperating with scores of gong-beating, shouting coolies, form a great circle around the known haunts of tigers, and close gradually in, driving the tigers within rifle range of the rajah.

"Out West," where we expect to find things done in a breezy and original fashion and on a large scale, they have a rather remarkable way of hunting the rabbits that multiply so rapidly and make it so hard for farmers to raise certain crops. On horseback and on foot they follow very nearly the tactics of the jungle-beaters of India; and the result, if the little beasts were not so wiry and tough, would be several hundred rabbit stews.

Another Western trick is to use the lasso where more conservative mortals would use the rifle. To capture a grizzly as one captures a steer would seem to be almost impossible; and yet the cowboys manage it with their customary coolness in risky matters. These men exhibit the same qualities which make for success in all sports — coolness, self-control, and patience, with an added love of adventure which carries them off the beaten track and into the region of the unusual and spectacular.